





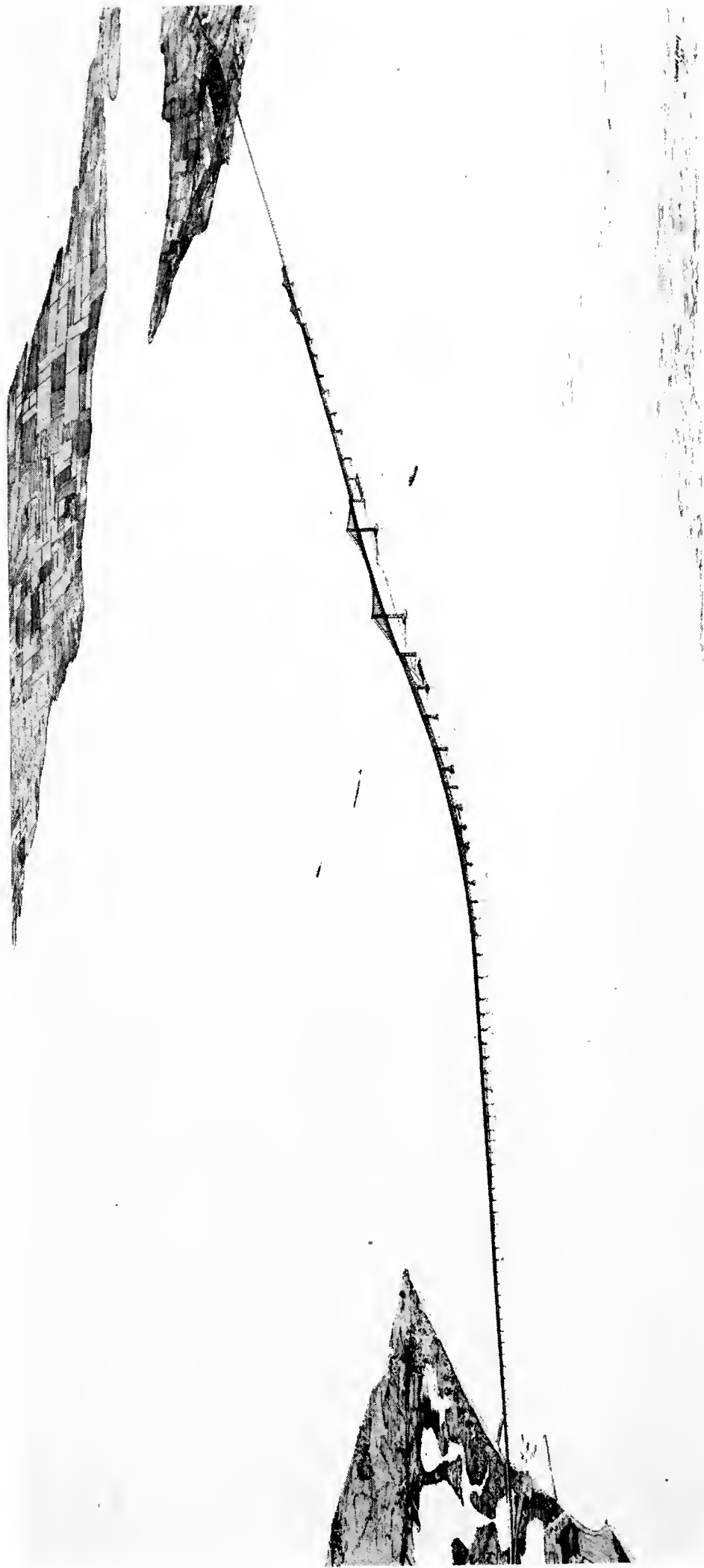
REPORT
OF THE
STATE ROADS COMMISSION
OF MARYLAND

OPERATING REPORT
AND FINANCIAL REPORT
FOR THE FISCAL YEARS
1947-1948

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REPORT

OF THE

STATE ROADS COMMISSION OF MARYLAND

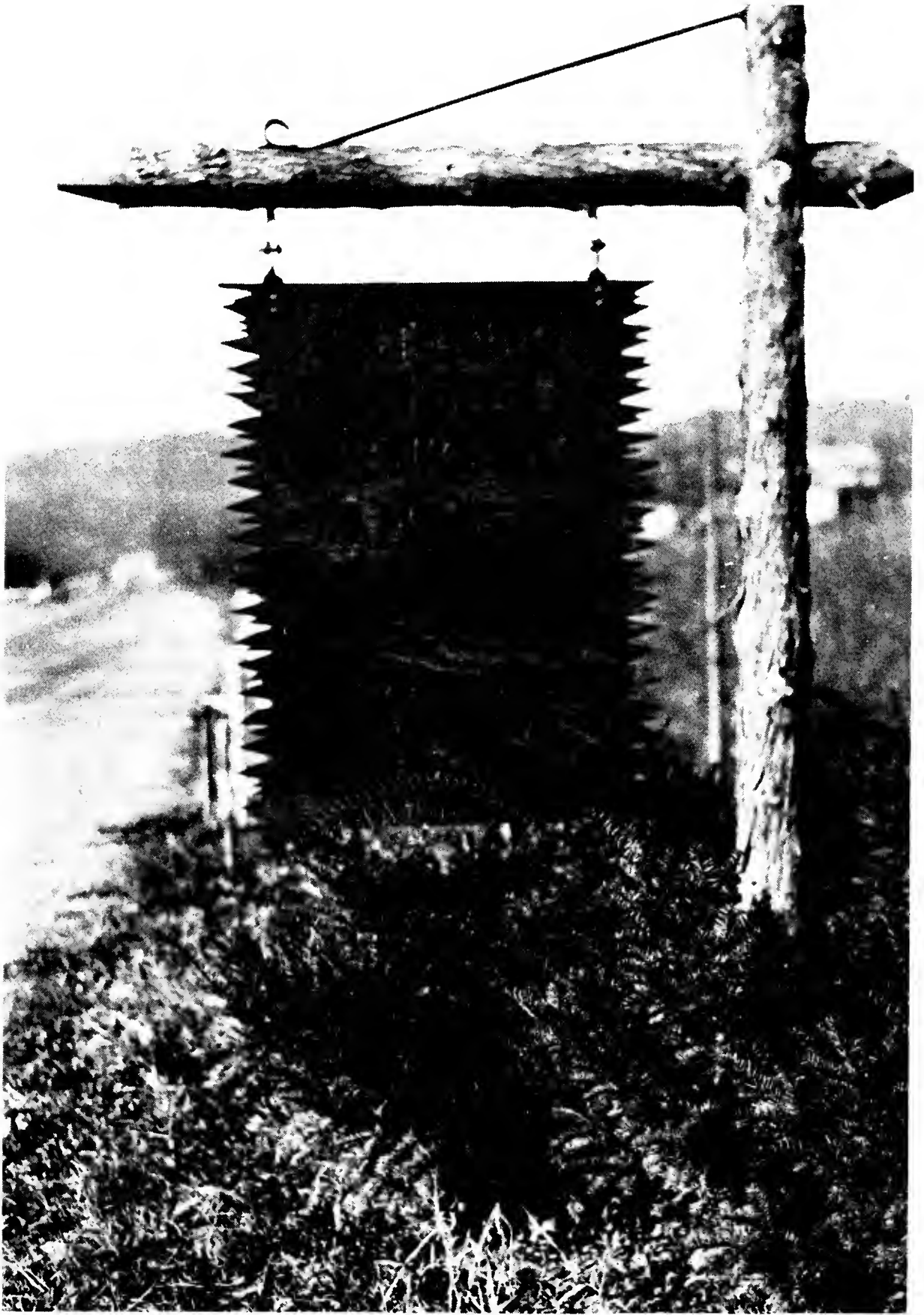
OPERATING REPORT
FOR THE FISCAL YEARS
1947-1948

FINANCIAL REPORT
FOR THE FISCAL YEARS
1947-1948



BALTIMORE, MARYLAND

FEBRUARY 15, 1949



MARKER LOCATED ON THE NEW FREDERICK-HAGERSTOWN ROAD, DESIGNATING THE BEGINNING OF THE GAMBRILL SCENIC AREA WHICH EXTENDS 7.5 MILES WEST.

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1947-48

**OFFICE OF THE STATE ROADS COMMISSION
OF MARYLAND**

**108 EAST LEXINGTON STREET
BALTIMORE, MARYLAND**

To His Excellency, William Preston Lane, Jr., Governor of Maryland:

Sir:

We have the honor to submit an operating and financial report covering the activities of the State Roads Commission of Maryland for the fiscal years 1947 and 1948.

The Commission recognizes the outstanding contribution of the State Highway Advisory Council, who are giving so generously and freely of their time and efforts. Their staunch support and sound advice, based on a broad knowledge and experience in their various fields of endeavor, was of material assistance in connection with the many problems which had to be surmounted to accomplish that which has been achieved in the expansion of the highway program.

The Commission also recognizes the loyal support of its entire personnel, whose ability, assistance and cooperation made this achievement possible.

Respectfully,

ROBERT M. REINDOLLAR

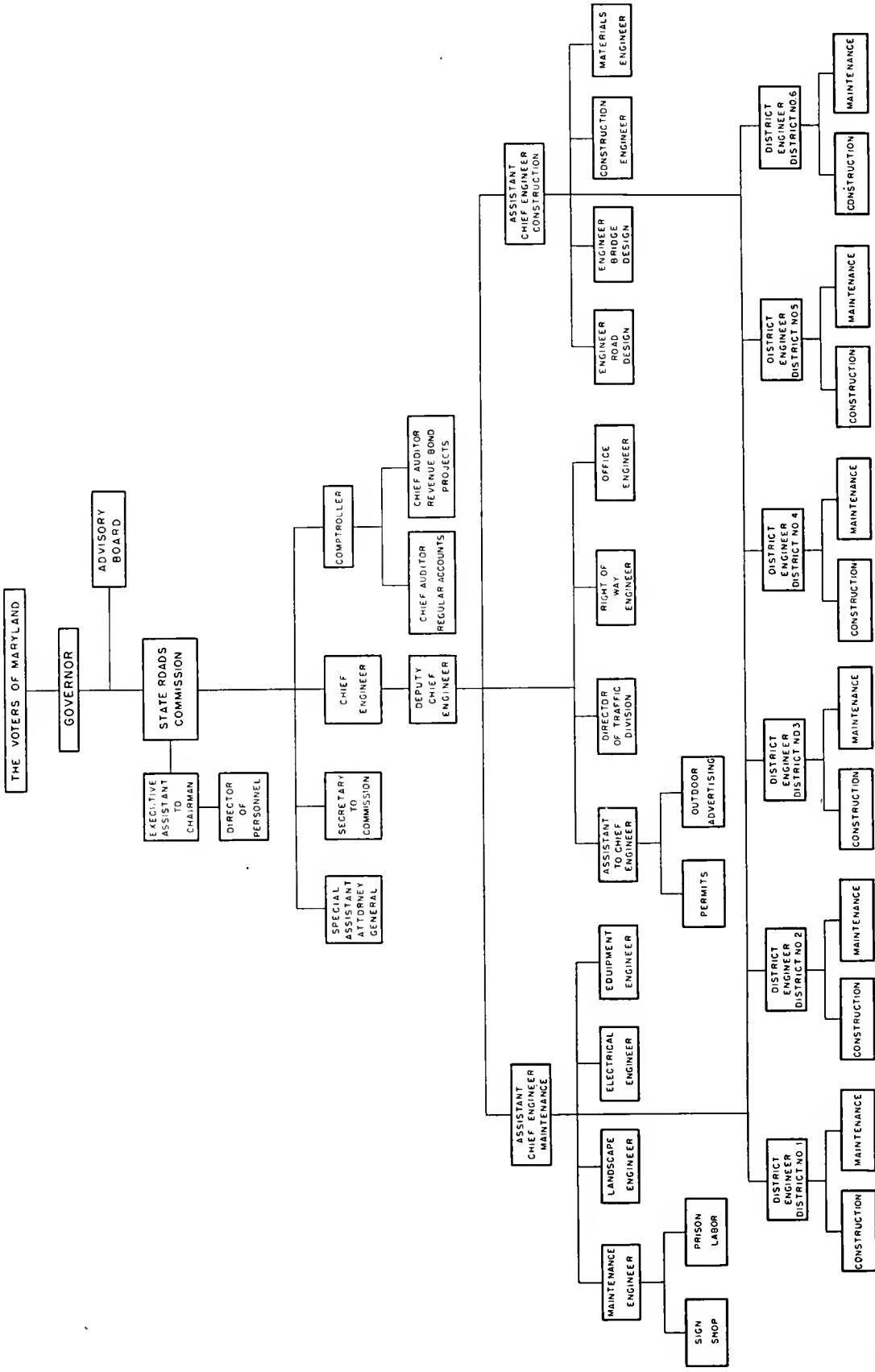
JOSEPH M. GEORGE

RUSSELL H. McCAIN

State Roads Commission

February 15, 1949.

STATE OF MARYLAND
 ORGANIZATION
 OF
 STATE ROADS COMMISSION



STATE ROADS COMMISSION

MEMBERS

ROBERT M. REINDOLLAR, *Chairman*
P. WATSON WEBB (July 1, 1946–December 2, 1947)
JOSEPH M. GEORGE (December 2, 1947–June 30, 1948)
RUSSELL H. McCAIN

LAMAR H. STEUART, *Secretary*
ALBERT S. GORDON, *Executive Assistant to Chairman*

ADVISORY COUNCIL TO THE COMMISSION

HOWARD BRUCE, *Chairman (October 14, 1947–May 17, 1948)*
CHESTER F. HOCKLEY, *Chairman (May 17, 1948–June 30, 1948)*

T. HOWARD DUCKETT
HERMAN L. GRUEHN

J. VINCENT JAMISON, JR.
J. TRUEMAN THOMPSON

J. MCKENNY WILLIS, JR.

ORGANIZATION PERSONNEL

Engineering Department

WILSON T. BALLARD, *Chief Engineer (July 1, 1946–September 30, 1947)*
WILLIAM F. CHILDS, JR., *Chief Engineer (October 14, 1947–June 30, 1948)*

WALTER C. HOPKINS, *Deputy Chief Engineer*

P. A. MORISON, *Assistant Chief Engineer-Maintenance*

AUSTIN F. SHURE, *Assistant to Chief Engineer.*

FRANK P. SCRIVENER
Maintenance Engineer

ALLAN LEE
Engineer of Road Design

THOMAS M. LINTHICUM
Construction Engineer

ALBERT L. GRUBB
Engineer of Bridge Design

J. ELDRIDGE WOOD
Materials Engineer

GEORGE N. LEWIS, JR.
Director Traffic Division

LE ROY W. KERN
Right of Way Engineer

A. F. DI DOMENICO
Office Engineer

District Engineers

DISTRICT No. 1—C. ALBERT SKIRVEN, *Salisbury, Md.*

DISTRICT No. 2—ROLPH TOWNSHEND, *Chestertown, Md.*

DISTRICT No. 3—E. G. DUNCAN, *Laurel, Md.*

DISTRICT No. 4—D. P. CAMPBELL, *Towson, Md.*

DISTRICT No. 5—JOSEPH CHANEY, *Upper Marlboro, Md.*

DISTRICT No. 6—G. BATES CHAIRES, *Cumberland, Md.*

Accounting Department

CARL L. WANNEN, *Comptroller*

WILLIAM A. CODD
Chief Auditor—Toll Facilities

JAMES W. ROUNTREE, JR.
Supervisor of Procedures and Controls

MORRIS M. BRODSKY
*Assistant Chief Auditor—
General Accounting*

CHARLES I. NORRIS
Supervisor of Budgets and Costs

Legal Department

ROBERT E. CLAPP, JR., *Special Assistant Attorney General*

Personnel, Pensions, and Workmen's Compensation Division

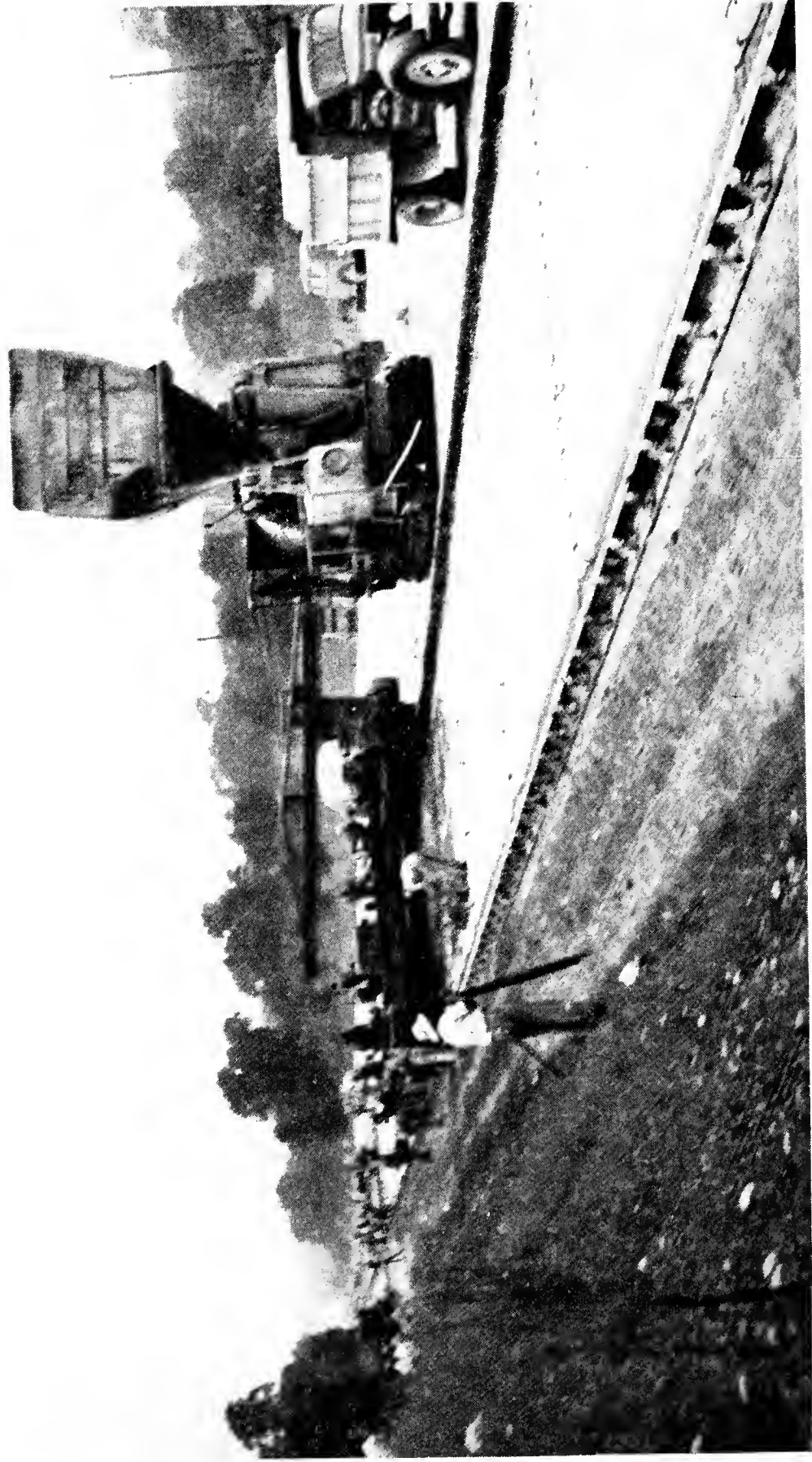
W. PHELPS THOMAS, *Director of Personnel*



SCENIC OVERLOOK AT TOP OF SOUTH MOUNTAIN ON THE NEW
FREDERICK-HAGERSTOWN ROAD.—ALT. U. S. ROUTE 40.

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CONSTRUCTION ON THE PULASKI HIGHWAY—U. S. ROUTE 40—EAST. WIDENING EXISTING TRAFFIC LANES FROM 20 FT. TO 24 FT. AND RESURFACING WITH REINFORCED CONCRETE PAVEMENT BETWEEN BALTIMORE AND ABERDEEN, DISTANCE OF 22 MILES.

REPORT OF THE CHIEF ENGINEER

TO THE HONORABLE CHAIRMAN AND
MEMBERS OF THE STATE ROADS COMMISSION:

The biennial report of the Chief Engineer for the period from July 1, 1946 to and including June 30, 1948 is submitted herewith, accompanied by the reports from the Division Heads, Sub-Division Heads, and the District Engineers.

These reports, supported by data, tables, charts and maps, give in detail the accomplishments of the Engineering Division of the Commission during the past two fiscal years. They have been prepared to give the facts in a manner understandable to the layman. It is, therefore, unnecessary for me to enlarge upon them other than to bring out some of the problems with which the Division was confronted at the time the expanded road building program was undertaken.

The present Chief Engineer took office on October 14, 1947, coincident with the appointment by Governor Lane of the Advisory Council to the Commission, and the inauguration of the enlarged road program. He was succeeded as Director of the Traffic Division by Mr. George N. Lewis, Jr.

One of the first problems to be solved was the reorganization of the Engineering Division. This was undertaken at the top level by the appointment of Mr. W. C. Hopkins, formerly Bridge Engineer, as Deputy Chief Engineer; Mr. P. A. Morison, formerly Assistant Chief Engineer, as Assistant Chief Engineer in charge of Maintenance; and some time later Mr. Gerald S. Rinehart as Assistant Chief Engineer in charge of Construction.

The Plans and Surveys Division was reorganized as the Division of Road Design, and Mr. Allan Lee, formerly of the Bridge Division, was promoted to Engineer of Road Design.

The Bridge Division was changed to the Division of Bridge Design, and Mr. Albert L. Grubb, formerly assistant to Mr. W. C. Hopkins, was promoted to the position of Engineer of Bridge Design.

The personnel of these two Divisions has been increased to the extent that it has been possible to obtain qualified persons, but the Divisions are still undermanned to meet the needs.

The Right of Way Division has been enlarged, but still has not a sufficient number of qualified persons to meet the volume of work occasioned by the expanded program. The expansion of this Division has been and still is one of the most pressing needs, and has materially delayed the accomplishment of the scheduled operations.

The position of Electrical Engineer, with supervision over all electrical operations, including those involved in bridges, was created. Mr. Cordt A. Goldeisen was placed in charge of this work.

The position of Office Engineer was created by the Commission on the recommendation of the Chief Engineer, and Mr. A. F. Di Domenico, formerly Assistant to the Director of the Transportation Study—Baltimore Metropolitan Area, was appointed to this position, and has done a splendid job under difficulties which he is gradually overcoming.

Because of the burden incident to getting the program under way, the completion of the reorganization had to be deferred until such time as proper thought could be given to the problem.

During the fiscal year ending June 30, 1947, some \$6,500,000 of construction was under way or completed. During the fiscal year ending June 30, 1948, this was increased to \$18,300,000. This is an increase of nearly 200% on the dollar value of construction. These figures represent construction costs only.

The personnel has not increased in anything like the same proportion. According to the records of the Personnel Director, there were 1,970 persons on the payroll of the Commission on June 30, 1947, representing salaried employees, per diem employees and ferry personnel. On May 3, 1948, the corresponding number was 2,215 employees, or an increase of 12.5%, as compared to a 200% increase in the value of construction.

The personnel of some Divisions has been increased more than others, but all are undermanned to meet the growing program.

In the Engineering Division, the requirements for new employees have been raised and salaries increased, but we have not been able to attract to these positions qualified persons in sufficient numbers to keep abreast of the work. As a result we have had to employ consultants to make surveys and prepare plans.

The program as established by the Commission calls for the construction of the most modern expressways, dual highways, two-lane highways, and widening and resurfacing of existing roads to provide safe and expeditious travel until such time as they can be completely rebuilt, and the building of secondary roads.

There are certain standards of design that must be attained on these highways in order that, upon completion, they will meet present and predictable future needs to avoid too early obsolescence and inadequacy.

There has been prepared and put in effect tables of desirable standards of design for both secondary and primary State highways. For each class of roads they have been established by traffic volume groups, and for the varying nature of the terrain within the State. They have been designed for progressive conversion, as traffic service requires, from two-lane highways to dual highways to multiple lane highways, with a minimum loss of the original investment. It is believed that they are forward looking, economical and will prevent the reoccurrence of the costly problem with which the Commission is faced today.

In preparing cost estimates of projects to be advertised for construction, a completely new order of procedure has been put into operation. Both the Division of Road Design and Division of Bridge Design now prepare these estimates just as if the State were submitting a bid in competition with the contractors. How well

this has worked out is evidenced by the fact that for projects awarded during the fiscal year 1947, in the amount of \$6,500,000, the State's estimate, in the aggregate, has been within $3\frac{1}{2}\%$ of the low bid submitted, and for the fiscal year 1948, the variation between the State's estimate and the low bids, on the basis of \$18,300,000 of construction, was less than 1%.

A close watch has been maintained over costs. In this respect a table has been prepared giving average bid prices upon several major items by districts, and for the State as a whole by years from 1940 to 1947, and for the first five months of 1948, and factored to provide an index for comparison with bids received. In addition, checks are made on bids on corresponding items in adjoining States. The records show that the prices paid in Maryland are not out of line.

Arrangements were made by the Commission with the Collector of Internal Revenue, whereby it was possible for contractors on State highway projects to receive materials consigned to the State Roads Commission in care of them, thereby effecting a saving to the State of the 3% transportation tax. We are receiving excellent cooperation from the contractors.

During the two year period covered by this report, the mileage of the State highway system has been increased by 41 miles, and in addition, there have been 255 miles of improvement in the way of widening and resurfacing existing highways, of which 210 miles were accomplished in the fiscal year of 1948.

It has been stated that during the fiscal year of 1948, a total of \$18,300,000 of contracts had been awarded and under way. In addition, commitments have been made, for the remainder of the calendar year, for the construction of road and bridge projects totalling \$23,341,853.

The accomplishments of the Engineering Division have been made possible largely because of the splendid cooperation the Division has received from the Commission and the Advisory Council to the Commission, and the faithful service of the employees who have given long hours of service each day for many months.

Respectfully submitted,

William F. Childs, Jr.
Chief Engineer.

MAINTENANCE

P. A. MORISON

Assistant Chief Engineer—Maintenance

FRANK P. SCRIVENER

Maintenance Engineer

JOHN C. GRANNAN

Equipment Engineer

JOHN H. FOERTSCH

Superintendent of Equipment

LOUIS PFARR

Sign Shop Foreman

S. W. BAUMILLER

Landscape Engineer



U. S. GOVERNMENT "SNOW-GO" USED IN SNOW REMOVAL

MAINTENANCE

Today, the highway network of the State is not only a complete transportation system in itself, but provides terminal extensions to all other transportation facilities—air, rail, water and pipe line—to the ultimate consumer and indeed to the producer, the manufacturer and the distributor or merchant as well. Its importance in transportation cannot be denied. Its proper maintenance is essential not only to the State but to the Nation. Our very economy is dependent upon our highways.

Maintenance is an operation to which no hard and fast rule may be applied. It is based primarily on the exercising of good judgment, not only under ordinary daily operations but in times of emergencies. To be effective and efficient, it requires alertness at all times and considerable forethought under unusual conditions in order that the highways may function every day of every year.

ORGANIZATION

The primary function of the maintenance division is the preservation of the system in its originally constructed or reconstructed state as nearly as possible, in order to provide satisfactory and safe highway transportation which is so essential to our domestic economy.

The administration is under the direction of the Assistant Chief Engineer-Maintenance, with headquarters in Baltimore, who is the representative of the Chief Engineer in all matters pertaining thereto.

Assistant engineers, operating out of headquarters in Baltimore, supervise administrative details and field inspections and coordinate various maintenance activities in order to insure uniformity of methods and practices. Further responsibilities are the preparing of specifications for the purchase of equipment, paint, signs, and other materials; direction of roadside development; and planning and supervising prison labor projects.

The State is divided into six engineering districts, each under the direct supervision of a District Engineer. Offices of these District Engineers are located in Salisbury, Chestertown, Laurel, Towson, Upper Marlboro and Cumberland.

Each District Engineer has an assistant with a district-wide assignment whose duties are to correlate the maintenance activities in his District, make periodic inspections of all roads and structures and exercise general supervision of all maintenance work and its related functions.

A Resident Maintenance Engineer is located in each county whose duties are to program and direct all maintenance operations in his assigned county. There are

twenty-four of these engineers, one each located in Princess Anne, Snow Hill, Salisbury, Cambridge, Easton, Chestertown, Centerville, Denton, Elkton, Churchville, Glyndon, Towson, Westminster, Gaithersburg, Laurel, Glen Burnie, Upper Marlboro, Sunderland, LaPlata, Leonardtown, Frederick, Hagerstown, Cumberland and Oakland.

The complement of men forming the maintenance organization at the end of the fiscal year 1948, follows:

Chauffeur	272
Road Foreman.....	95
Chauffeur-Foreman.....	50
Motor Equipment Operator.....	111
Automobile Mechanic.....	39
Gas Shovel Operator.....	18
Blacksmith.....	2
Shop Foreman.....	17
Shop Clerk.....	25
District Equipment Supervisor.....	5
Skilled and Unskilled Laborers.....	824
Total.....	<u>1,458</u>

This means that there is available for maintenance, one man for approximately each six miles of State and County roads maintained by the State Roads Commission.

Recent general salary increases and reclassifications of employees have not only contributed to the present high morale of the personnel but are continuing to pay dividends. Many of the older employees in point of service, whose loyalty, experience and ingenuity are so necessary for the successful operation of an organization, might have been tempted to leave for higher paid positions in similar fields of endeavor had not these changes been brought about.

Up to date maintenance methods require the proper use of modern equipment. Each employee is trained in his own assignment and is encouraged to learn the operation of other pieces of equipment, so that the entire personnel may be molded into a composite mobile organization capable of continuously carrying out the many varied requirements of satisfactory maintenance.

The standard work week for field forces is 50 hours. During emergencies, however, such as snow storms, floods, etc., hours of work are unlimited until such time as the roads are again safe for travel.

MAINTENANCE OPERATIONS

MAINTENANCE OF ROAD SURFACES

The condition of the road surface is the yard stick by which maintenance operations are measured. All other items of maintenance are secondary in that they contribute their relative value to retaining smooth and safe surfaces.

Road surfaces are maintained by patching, bituminous surface treatment, the surface and sub-surface sealing of joints and cracks and the placing of bituminous hot mix material.

Mileage

The number of miles of road on both the State and County system, maintained by the State Roads Commission, are shown in Table 1, Traffic Division section.

Patching

Patching is the restoration of small areas of road surface which have become distorted or broken. The old adage of a "stitch in time saves nine" is certainly apropos of patching operations. If a small break is neglected, it grows under the continual pounding of traffic, it costs more to repair and results in greater inconvenience to the motorists.

Generally, bituminous patches are placed. However, concrete is used where the concrete surfacing is free of bituminous patches. The extensiveness of this patching operation is borne out by the fact that field reports show that approximately 1,797,600 square yards of surface were repaired during the fiscal year 1948. This area is approximately 3% of the entire surface area in the State system.

Bituminous Surface Treatment

This operation is the periodic sealing of entire road surfaces and the providing of an additional wearing course by the application of aggregate. It is a seasonal, spring and summer, activity of major importance and should not be carried on when the air temperature is below 55° F. Occasionally exceptions to this rule are necessary.

During the month of October, the District Engineers submit to the Assistant Chief Engineer-Maintenance, a suggested bituminous surface treatment program to be carried out during the following spring and summer. Experience indicates that this is the best time of the year to determine the roads requiring this treatment. The program designates the roads to be treated, the rate of application of bituminous material and mineral aggregate, and the estimated cost.

From this information, a tentative State-wide surface treatment program is formulated. A second inspection is made after the spring thaw to check the rates of bituminous application and aggregate cover and a final program is established on which bids are requested. This usually takes place during the month of April. Except for special treatments, various types of bituminous materials and aggregates are generally placed in competition.

Following are tabulations showing the miles of road on both the State and County systems which have been treated during the period covered by this report.

Surface and sub-surface sealing of joints and cracks

All cracks in the concrete surfacing and joints are kept sealed by the use of bituminous crack filler.

Recently, however, there has been developed a rubber material which is melted and poured into the crack and indicates that it will give a superior adhesion and a

OILING—STATE SYSTEM
FISCAL YEAR 1947

District & County	Miles Road	Miles Shoulder	GALLONS		
			Asphalt	Asph. Emul.	Tar
No. 1 Dorchester.....	10.02	3.03		33,458	
Somerset.....	3.86	0.60		16,981	
Wicomico.....	22.03	16.38		132,418	
Worcester.....	7.71	13.69		78,247	
Total.....	43.62	33.70		261,104	
No. 2 Caroline.....	1.39			4,459	
Cecil.....	16.20			54,711	
Kent.....	5.15	1.81			18,707
Queen Anne's.....	13.41			62,021	
Talbot.....	17.22	7.17		68,929	
Total.....	53.37	8.98		190,120	18,707
No. 3 Anne Arundel.....	29.25	9.58	122,458		1,482
Carroll.....	22.60		11,194	51,981	
Howard.....					
Montgomery.....	53.98			110,670	64,220
Total.....	105.83	9.58	133,652	162,651	65,702
No. 4 Baltimore.....	16.17		92,164		
Harford.....	5.20		4,622		
Total.....	21.37		96,786		
No. 5 Calvert.....	24.15				71,231
Charles.....	44.40		34,809		102,156
St. Mary's.....	30.19		90,478		
Pr. Geo.'s.....	32.61		101,993		
Total.....	131.35		227,280		173,387
No. 6 Allegany.....	11.41			33,250	
Frederick.....	23.03			63,295	
Garrett.....	12.77			49,670	
Washington.....	13.95				51,758
Total.....	61.16			146,215	51,758
Grand Total.....	416.70	52.26	457,718	760,090	309,554

OILING—COUNTY SYSTEM
FISCAL YEAR 1947

District & County	Miles Road	Miles Shoulder	GALLONS		
			Asphalt	Asph. Emul.	Tar
No. 1 Dorchester.....	21.04	5.64		93,067	
Somerset.....	18.55			111,629	
Wicomico.....	33.51			106,425	
Worcester.....	15.17			51,724	
Total.....	88.27	5.64		362,845	
No. 2 Caroline.....	10.40			29,268	
Cecil.....	15.40			44,930	9,558
Kent.....	5.20				23,098
Queen Anne's.....	3.50			14,371	
Talbot.....	22.42			71,920	
Total.....	56.92			160,489	32,656
No. 5 Calvert.....	12.85				82,438
Charles.....	7.95				55,104
St. Mary's.....	11.30		27,392		48,191
Total.....	32.10		27,392		185,733
Grand Total.....	177.29	5.64	27,392	523,334	218,389

OILING—STATE SYSTEM
FISCAL YEAR 1948

District & County	Miles Road	Miles Shoulder	GALLONS		
			Asphalt	Asph. Emul.	Tar
No. 1 Dorchester.....	37.57	8.42	149,250		
Somerset.....	4.85	2.86	27,714		
Wicomico.....	14.88	7.85	66,615		
Worcester.....	0.90	16.10	85,162		
Total.....	58.20	35.23	328,741		
No. 2 Caroline.....	11.89		41,057		
Cecil.....	28.90		104,879		
Kent.....	21.92		67,298		
Queen Anne's.....	32.34		79,156		
Talbot.....	5.60	2.40	30,770		
Total.....	100.65	2.40	323,160		
No. 3 Anne Arundel.....	30.14	46.40	186,282		
Carroll.....	19.76		46,256		
Howard.....	4.68	16.16	14,292		13,432
Montgomery.....	54.49		111,905		11,992
Total.....	109.07	62.56	358,735		25,424
No. 4 Baltimore.....	23.31	13.82	155,812		
Harford.....	39.74		107,154		
Total.....	63.05	13.82	262,966		
No. 5 Calvert.....	12.77		39,350		
Charles.....	74.90		215,288		
St. Mary's.....	40.74				141,173
Pr. Geo.'s.....	30.58	1.43			102,270
Total.....	158.99	1.43	254,638		243,443
No. 6 Allegany.....	9.64		28,592		
Frederick.....	28.09	1.90	78,441		
Garrett.....	28.33		90,992		
Washington.....	31.25	3.55	97,862		
Total.....	97.31	5.45	295,887		
Grand Total.....	587.27	120.89	1,824,127		268,867

OILING—COUNTY SYSTEM
FISCAL YEAR 1948

District & County	Miles Road	Miles Shoulder	GALLONS		
			Asphalt	Asph. Emul.	Tar
No. 1 Somerset.....	6.94	5.50	41,268		
Wicomico.....	64.13		150,969		
Worcester.....	42.60		313,626		
Total.....	113.67	5.50	505,863		
No. 2 Queen Anne's.....	11.80		89,732		
Cecil.....	17.10		58,237		
Caroline.....	3.48		17,653		
Talbot.....	48.01		438,286		
Kent.....	1.36	1.75	8,525		
Total.....	81.75	1.75	612,433		
No. 5 Charles.....	15.93		47,031		
Calvert.....	16.30		59,387		
St. Mary's.....	35.88				150,842
Total.....	68.11		106,418		150,842
Grand Total.....	263.53	7.25	1,224,714		150,842

more lasting seal than the material now being used. Test sections of concrete road, on which this type of material has been used, are under study.

A crew operating over the State has sub-sealed with bituminous material approximately 700,000 square yards of concrete surfacing using about 1,500,000 gallons of bituminous material. This operation prevents the pumping of joints which leads to failure of the surface. Also, it sub-seals the joint or crack from the bottom and reseats the concrete slab.

The projects sub-sealed under this operation are listed as follows:

- U.S. Route 40—The Pulaski Highway north of Aberdeen to the Susquehanna Bridge, and from the Pennsylvania Railroad Bridge near Elkton to the Delaware Line, a distance of 8 miles.
- U.S. Route 40—The Pulaski Highway between the Susquehanna Bridge and the Pennsylvania Railroad Bridge at Elkton, a distance of 11 miles, omitting section previously sub-sealed.
- U.S. Route 1—Section of Baltimore-Washington Boulevard in vicinity of College Park and Riverdale, a distance of 1.25 miles.
- U.S. Route 40—The Pulaski Highway between Baltimore-Harford County Line and Aberdeen, a distance of 12 miles.

Small areas of rigid type pavements which have settled, have been mud-jacked into position by the use of a cement soil slurry. Surfaces have been restored which have been as much out of section as six inches. This operation is carried on by the same crew which does the bituminous sub-sealing.

Bituminous concrete, "hot mix", is being used in ever increasing quantities by this Commission to provide distorted and broken sections with a smoother non-skid surface. It is placed under the direction of the Construction Division and is reported on in that section. The placing of this material is helping to solve the maintenance of pavement problem and is favorably received by the public.

SHOULDERS

Unfortunately, due to narrow right-of-way widths on many of the earlier constructed roads, it has been impossible for the maintenance forces to maintain adequate shoulder areas to permit off-surface parking. In the latter part of 1946, this Commission purchased six continuous belt conveyors. They are used primarily for the quick and economical loading of surplus shoulder material after it has been windrowed by power graders. This operation has proved so successful that the Commission has purchased several more of these machines.

Wider shoulders not only add to the appearance of the road but provide off-pavement parking in emergencies and permit better maintenance and drainage operations. During the fiscal year 1948, approximately 1,979,800 cubic yards of excess material was removed from shoulder areas.

GUARD RAIL

Recently the Commission has purchased small paint spray units which permit the painting of guard rail posts and fittings more efficiently and effectively. An-



GOOD EXAMPLE OF PROPER INSTALLATION OF CONCRETE REBUT AND CUTTER WITH BITUMINOUS TREATED SHOULDER. STABILIZED TO PREVENT EROSION

other reduction in the maintenance costs of guard fence posts has been occasioned by the elimination of the black paint at top and bottom.

DRAINAGE

Previously it has been mentioned that all phases of maintenance aim to provide a smooth surface. Good drainage is essential to a firm foundation on which to build the pavement. Without it no surface, no matter how well designed, can withstand the pounding of present day traffic.

Maintenance forces are frequently faced with the necessity for replacing worn out and inadequate pipes, particularly under the older roads. Corrugated metal, asphalt coated corrugated metal, and reinforced concrete pipe are being used.

WINTER OPERATIONS

The erection and dismantling of snow fence, the preparation and distribution of abrasive material in piles along the highways, and the overhauling of snow removal equipment are major fall operations. Approximately 335 trucks, ranging in size from 3 ton to 7 ton and equipped with rotary, V-type and one-way plows, and 64 motor patrol units equipped with V-type plows, are available for snow removal operations. Approximately 1,800,000 feet or approximately 341 miles of snow fence was erected and dismantled during the past two fiscal years.

Accompanying this report are maps showing the average snow fall for different sections of the State during the winters of 1946-47 and 1947-48.

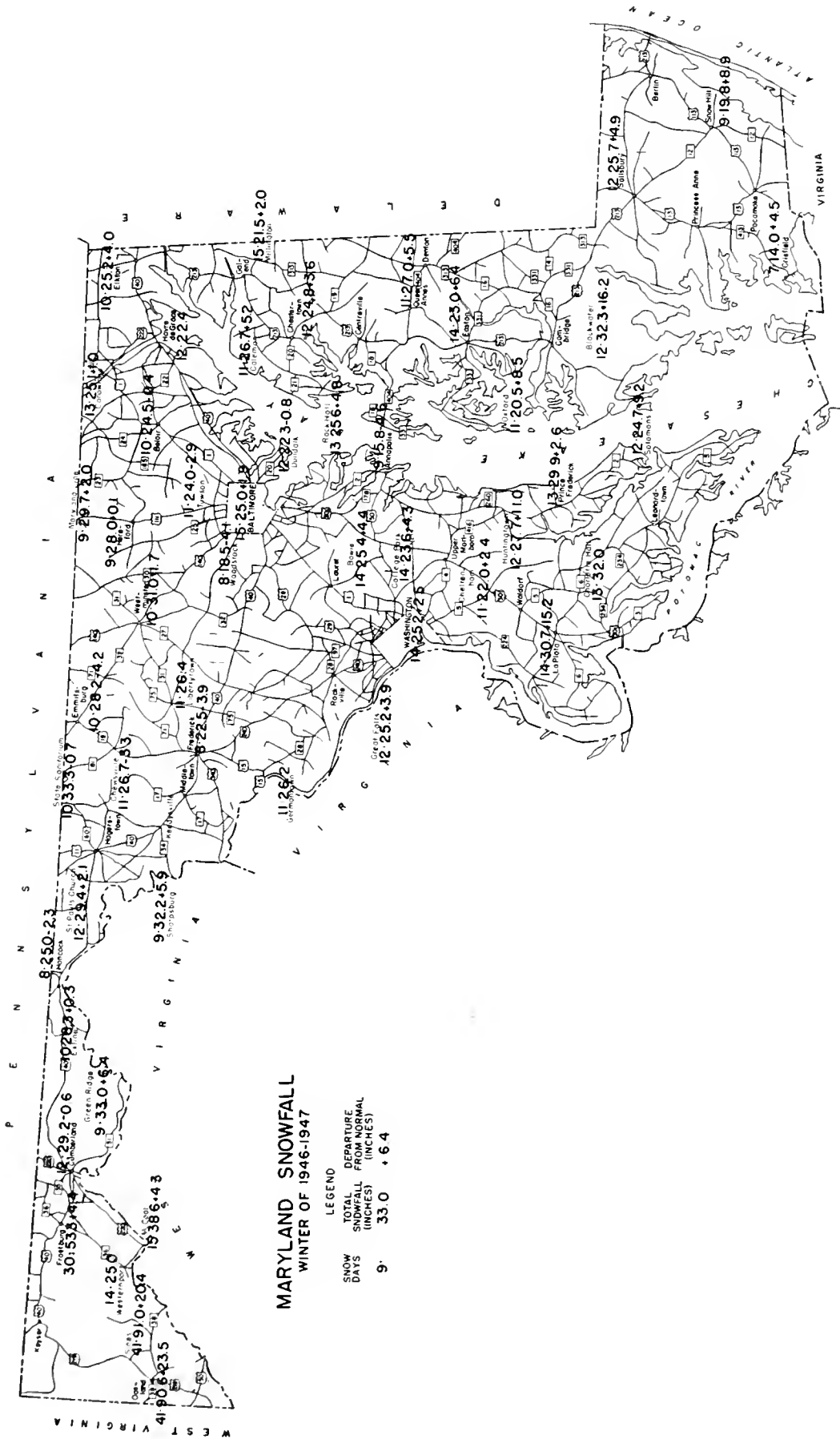
It is worthy of note that during the month of February 1947 we had one of the worst snow storms which has visited this State in many years. The high winds accompanying this storm caused many miles of State highways to be closed, in some instances for a period of approximately one week. This storm was of such intensity that it was necessary for contractors and the U. S. Army to assist with their heavy equipment in getting the highway system open for travel. The Commission is deeply appreciative of this prompt help, which was needed so urgently at the time.

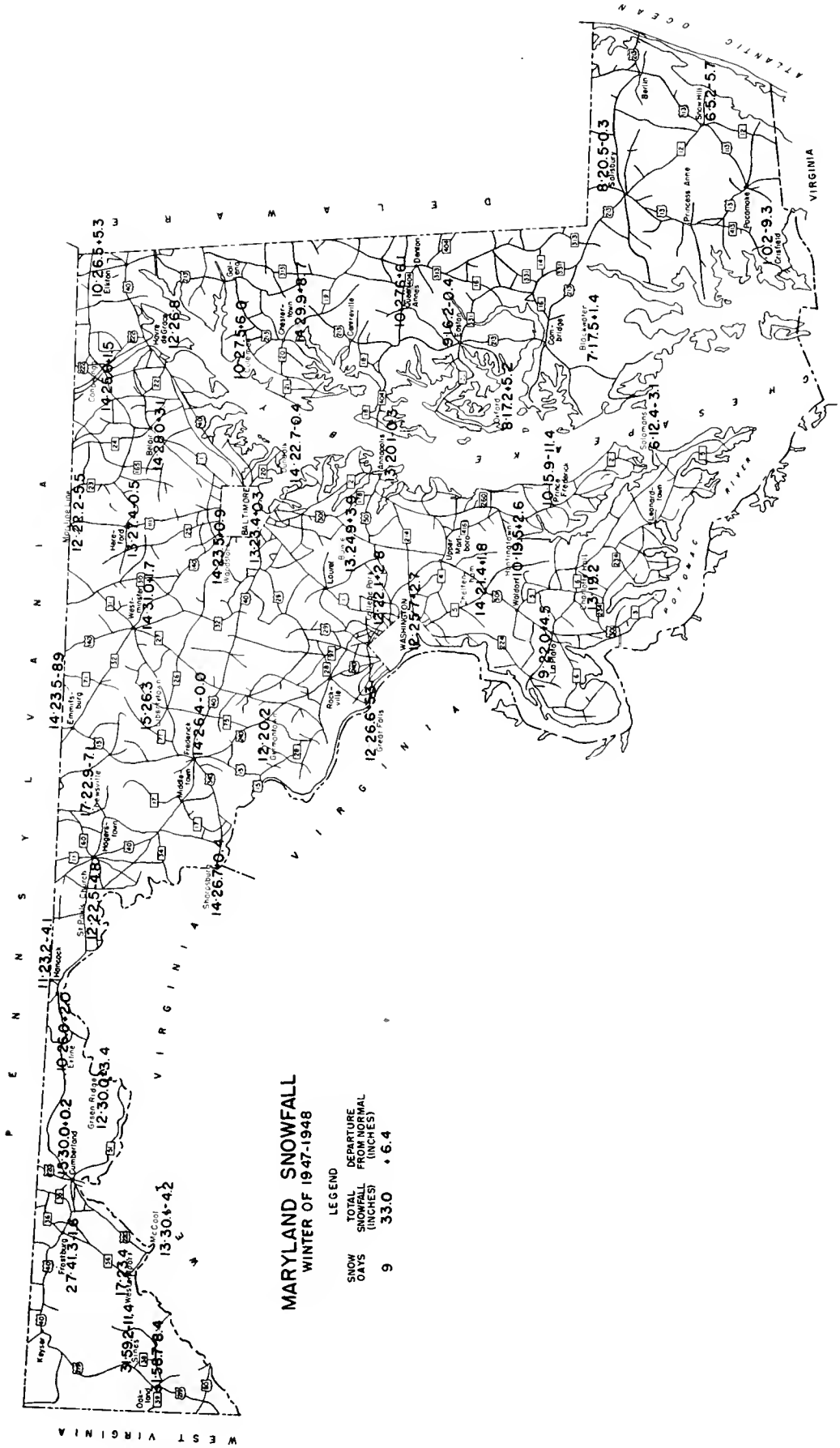
The treatment of icy roads with abrasives is an operation which again demonstrates the loyalty of the entire organization. The employees realize that upon the promptness of the operation and its continuity in subfreezing temperatures hinges the safe transportation of the traveling public.

Cinders and sand are the abrasives generally used. These materials are usually treated with calcium chloride or sodium chloride which prevents the stockpiles of material from freezing and helps to imbed the abrasives in the icy pavements.

Approximately 25,000 tons of this type of material is spread during the winter season. To help in the promptness of the application of the abrasives, mechanical equipment is used for the quick loading of trucks.

In order to supply information regarding the ever changing condition of the roads during storms, the central, district and resident maintenance engineer's offices are open continuously for the duration of the emergency. Reports of these changes are forwarded to the press and radio for release to the public.





**MARYLAND SNOWFALL
WINTER OF 1947-1948**

LEGEND	
TOTAL SNOWFALL (INCHES)	9 33.0
DEPARTURE FROM NORMAL (INCHES)	+6.4

In the dissemination of this information and in emergencies the Maryland State Police have been most cooperative and helpful.

PRISON LABOR

To help relieve the idleness of the inmates in the Penal Institutions of the State, the 1937 General Assembly authorized and directed the State Roads Commission to expend the sum of \$100,000 per year for the fiscal years 1938-39, such monies to be used for the purpose of establishing reconstruction, betterment and maintenance projects suitable for prison labor. Subsequent General Assemblies have not only continued this authorization but have increased it to the point that the State Roads Commission may, at the present time, spend any available funds which they may elect for this type of work.

Primarily, the type of projects selected have been the widening and, in some cases, resurfacing of pavement surfaces with aggregate bituminous mixes, the extension and widening of drainage structures, which has contributed towards eliminating the hazard of having head walls adjacent to the road surfaces, the widening of cuts and fills and the correction of poor drainage.

The construction of additional traffic lanes using bituminous plant mix material at intersections of two heavily traveled roads, has materially helped to ease traffic jams, in that two or more cars can cross on the green light where formerly, due to the narrow pavement width, only one could cross. The additional widening on the far side of the intersection permits the merging of traffic beyond the intersection. Improvements of this type, with satisfactory results, have been carried on at the following intersections:

Md. Route 253, Mayo Road, and Md. Route 2, Solomons Island Road.

U. S. Route 301 and Md. Route 4, at Well's Corner.

Md. Route 4 and Md. Route 416, at Wayson's Corner.

An engineer from the Baltimore office recommends to the Assistant Chief Engineer-Maintenance, various projects which, in his judgment, are suitable for this type of work and which will contribute to the establishment of wider, smoother and safer roads. Upon Commission approval, bids are taken on various materials to be used in the work. These projects are under the direct supervision of three Junior Assistant Highway Engineers. The prisoners daily used for this type of work are obtained from the prison camp at Chester, the House of Correction, the Penitentiary at Baltimore and the recently established camp in Montgomery County.

Some idea of the volume of work carried on by this small organization is brought out by the fact that during the period of this report and up to the time of its submission, approximately \$1,000,000 has been authorized by the State Roads Commission for the carrying out of this type of work.

Tabulated below is a list of the projects which have been completed or are in the process of being completed.



WIDENING AND RESURFACING INTERSECTION OF U.S. ROUTE 301 (CRAIN HIGHWAY)
AND MD. ROUTE 214 (CENTRAL AVENUE), TO PROVIDE ADDITIONAL
TRAFFIC LANES



WIDENING AND RESURFACING INTERSECTION OF MD. ROUTE 4 AND MD. ROUTE 416,
AT WAYSON'S CORNER

WORK PERFORMED BY PRISON LABOR

Completed Projects

- Patched and surface treated roads around House of Correction at Jessups. The cost of completing to be paid by the House of Correction.
- Laid approximately 3 inches bituminous gravel road mix on concrete surface and improved drainage and gravel shoulders on Defense Highway, just east of Bartgis Store, and extending for a distance of 6.6 miles to a point just east of the Annapolis Waterworks.
- Resurfaced for a width of 22 feet, with gravel Specification "B", Md. Route 173 from a point just south of Rivera Beach for a distance of 1 mile.
- Eliminated lip curb on Old Annapolis Boulevard at Lipin's Corner.
- Widened Mayo Road to 30 feet for a distance of 1,300 feet. Widened Md. Route 2 to 40 feet for 0.6 of a mile. Resurfaced the 30 foot section of Mayo Road and the 40 foot section of Md. Route 2 with gravel Specification "B".
- Widened with Specification "B" from 18 feet to 22 feet along Md. Route 416 between Wayson's Corner and the intersection with Md. Route 260, a distance of 9 miles.
- Widened with Specification "B" from 16 feet to 22 feet, Md. Route 176, Dorsey Road between Harmans and Dorsey, a distance of 2.63 miles.
- Widened from 16 feet to 24 feet, Md. Route 176, Dorsey Road between Harmans and intersection with U.S. Route 301 just north of Glen Burnie, a distance of 3.52 miles.
- Constructed Specification "B" shoulders along Md. Route 416 between Chesapeake Beach Road and Sunderland, a distance of 3.90 miles.
- Widened and banked curves through Goldsboro to connect with existing project south and to provide for the surface treatment of the shoulders throughout the project.
- Installed pipe culverts, Md. Route 404, Andersontown.
- Graded and drained Md. Route 404 between Hillsboro and Log Cabin, a distance of 3 miles.
- Placed road mix surface and relocated three curves along Md. Route 404
- Widened Md. Route 20 from Chestertown to Rock Hall to a 22 foot width.
- Widened to 24 feet with Specification "B", Carroll Avenue, Md. Route 195 between Town Limits of Takoma Park and University Lane, a distance of 0.56 of a mile.
- Widened to 30 feet with Specification "B", Flower Avenue, Md. Route 194 between Carroll Avenue and Sligo Avenue, a distance of 0.98 of a mile.
- Widened to 24 feet with Specification "B", Md. Route 320, Pincy Branch and Sligo Road between Georgia Avenue and New Hampshire Avenue for a distance of 2.79 miles.
- Widened to 24 feet with Specification "B", U.S. Route 240 between Gaithersburg and Brink for a distance of 2.36 miles.
- Widened to 22 feet with Specification "B", Md. Route 28 from Rockville twd. Hunting Hill for a distance of 2.70 miles.
- Constructed Specification "B" shoulders along Md. Route 127, Old Georgetown Road in Bethesda, for a distance of 2100 feet, 9 feet wide and 6 inches deep.
- Constructed 5 foot bituminous shoulders plus rebuts along 0.51 of a mile of Md. Route 492.
- Constructed bituminous sand shoulders along the Chapel Road, Md. Route 389, 8 foot wide, for a distance of 0.52 of a mile and 4 feet wide, plus rebut for a distance of 0.30 of a mile.
- Widened Central Avenue between Capitol Heights and Seat Pleasant for a distance of 0.50 miles, an average width of 7 feet on one side of the road.
- Widened Central Avenue with 6 inches Specification "B" base course for a distance of 1,500 feet east and west of Crain Highway. Constructed shoulders, made adjustments to structures, carried out all necessary excavation in the area, made adjustments to sight distances to desirable standards and resurfaced with 2 inches of Specification "B" surface course.
- Acquisition of right of way. Centerville-Ruthsburg.
- Ingleside-Caroline County Line. Survey and right-of-way.
- Installed and extended pipes, Md. Route 313, Ingleside-Caroline County Line.
- Widened road and right-of-way on Md. Route 313 between Sudlersville and Millington.
- U.S. Route 213, Centerville-Wye Mills. Completed grading and drainage.
- Surface treated shoulders on Md. Route 290, Dudley's Corner to Crumpton.

Incompleted Projects

- Conditioning Bartgis Store Road, 2.4 miles, for acceptance as part of the State system.
- Conditioning Chinquapin Round Road, 3.25 miles, for acceptance as part of the State system.

- Widening to an ultimate width of 22 feet with Specification "B", 6 inches deep, the existing 16 foot concrete surfacing along Md. Route 175 between Millersville and Odenton.
- Extension of third traffic lane on King George Street, Md. Route 2, just south of the traffic signal at the Post Graduate School in Annapolis.
- Constructing with Specification "B", a third lane along Md. Route 416 from Md. Route 4 twds. Bristol for a distance of 600 feet. Resurfacing with 3½ inches Specification "B", Md. Route 4 from Md. Route 416 to amiesite section on west approach to Hills Bridge, distance of 0.80 miles.
- Widening Md. Route 313 just south of Denton with 4 feet gravel shoulders and 8 feet earth shoulders, 3,300 feet long.
- Widening with Specification "B", from 16 feet to 20 feet, Md. Route 292 between Stillpond and Betterton, a distance of 2.60 miles. Widening from 15 feet to 24 feet, a distance of 0.80 miles thru Stillpond and also bringing road up to desirable standards.
- Widening with Specification "B" from 17 feet to 20 feet, U.S. Route 213 between Kennedyville and Locust Grove, a distance of 3.3 miles, and also modifying grades and curves to reach desirable standards.
- Tearing down of the barracks at Fort Meade.
- Painting, digging well, electrical and plumbing work, prison labor camp in Montgomery County.
- Widening East-West Highway, Md. Route 410 in vicinity of Rock Creek to an ultimate width of 40 feet for a distance of 0.65 miles.
- Widening Md. Route 117 between Seneca Creek and Old Germantown from 12 feet to 20 feet for a distance of 1.20 miles.
- Widening with 8 inches Specification "B" from 18 feet to 24 feet, Md. Route 320, New Hampshire Avenue Extended between White Oak and Avenal. Resurfacing with 3 inches Specification "B", a distance of 0.30 miles.
- Widening from 19 feet to 22 feet and resurfacing Md. Route 27 beginning at southern limits of macadam section north of Damascus, for a distance of 2.70 miles through Damascus.
- Widening and resurfacing Md. Route 4 from west approach to Hills Bridge to Well's Corner.
- Acquiring right-of-way on Md. Route 404 between Wye Mills and Queen Anne, a distance of 6 miles. Widening, extension and replacing of drainage structures and opening of outlet ditches.
- Widening from 14 feet to 20 feet, Md. Route 19 from Church Hill to Ingleside, 7.25 miles.
- Improving from new U.S. Route 213 at Cordova Road to Easton, 2.2 miles on Alt. U.S. Route 213 by widening the existing surfacing to 22 feet, using the existing right-of-way.

To augment the maintenance forces in those sections of the State where labor shortages are most critical, there has been transported daily, inmates from the various Penal Institutions:—18 men from the Penitentiary for work in Baltimore and Harford Counties; 20 men from the prison camp at Chester for work in Talbot, Queen Anne's and Caroline Counties; and 20 men from the House of Correction at Jessups for work in Anne Arundel, Prince George's and Howard Counties.

Whenever the need arises, men are transported from the Penal Farm at Roxbury for work in Washington and Frederick Counties.

Recently there was established a prison camp in Montgomery County which will make available, for maintenance work in Montgomery and adjacent counties, an additional 40 men. These counties, due to their proximity to Washington and the high wages paid by private industries, have been unable to secure labor requirements for maintenance operations. As a consequence, roads in these areas have suffered for lack of maintenance.

Prison camps formerly located at Leonardtown and Elkton have been abandoned.

EQUIPMENT DIVISION

During the fiscal year 1947, the Commission's purchases of new equipment amounted to \$195,226.72, and during the fiscal year 1948 totaled \$543,203.04. The details of these purchases are shown in the accompanying Table 1. The recovery on passenger cars disposed of in the fiscal year 1947 amounted \$14,906.50 on 27 cars. For the fiscal year 1948 the recovery amounted to \$44,360.23 on 59 cars. The amounts shown in Table 1 represents total costs. It will be noted that in addition to passenger cars, the greater part of the expenditure was for trucks, motor-patrols and mowers, these units being the most essential equipment in road maintenance.

The previous biennial report pointed out that 81 per cent of 1,286 road units were five or more years old at that time, and these units are being replaced as rapidly as funds and the ability of suppliers to furnish them permit. However, manufacturers are still hampered in their production by their inability to obtain the necessary steel in sufficient quantities.

The personnel of the Equipment Division: shop-mechanics, helpers, and equipment operators, which was seriously depleted during the war years, is gradually being brought up to the number required for the operation and maintenance of Commission equipment.

Material inventories in many of the garages are depleted and should be replenished as rapidly as possible, in order to operate the equipment efficiently.

Accompanying Table 2 lists the equipment owned by the Commission at June 30, 1948.

SIGN SHOP

One of the services rendered by this organization, most appreciated by the public, is the placing of road signs and surface markings. The manufacture of all the road signs in the State is generally carried on at the Central Sign Shop located in Baltimore.

Recently small shops have been established in each of the Districts for maintenance purposes.

The personnel of the Sign Shop in Baltimore is as follows:

- 1 Foreman
- 1 Assistant Foreman
- 1 Foreman Operator (Paint Machine)
- 5 Sign Painters
- 2 Sign Painters Helpers
- 1 Chauffeur
- 1 Shop Clerk

The following equipment is used by the Sign Shop employees:

- 1 Paint Mixer (Air Powered)
- 1 Metal Bending Machine

TABLE 1

SUMMARY OF TRANSPORTATION AND CONSTRUCTION EQUIPMENT PURCHASED DURING FISCAL YEARS 1947 AND 1948

Type of Equipment	FISCAL YEAR 1947		FISCAL YEAR 1948		TOTAL	
	Number Purchased	Total Cost	Number purchased	Total Cost	Number purchased	Total Cost
PASSENGER CARS						
Buicks	9	\$ 16,143.35	9	\$ 19,627.77	18	\$ 35,771.12
Cadillaes.....	1	2,715.42			1	2,715.42
Chevrolets.....	46	56,229.62	45	55,893.75	91	112,123.37
TOTAL PASSENGER CARS.....	56	\$ 75,088.39	54	\$ 75,521.52	110	\$150,609.91
TRUCKS						
CARRY ALLS						
Chevrolets.....	7	\$ 9,142.43	2	\$ 3,171.10	9	\$ 12,313.53
DUMPS						
Federals.....			59	196,588.00	59	196,588.00
F.W.D.....			7	49,350.00	7	49,350.00
PICKUPS						
Chevrolets.....	7	6,832.75	18	21,516.20	25	28,348.95
STATION WAGONS						
Fords.....			1	1,714.73	1	1,714.73
TRAFFIC SIGNAL MAINT.						
Chevrolets.....			2	5,247.41	2	5,247.41
VANS						
Chevrolets.....			1	3,152.85	1	3,152.85
TOTAL TRUCKS.....	14	\$ 15,975.18	90	\$280,740.29	104	\$296,715.47
MISCELLANEOUS EQUIPMENT						
Auto Patrols.....	9	\$ 74,247.75	7	\$ 63,232.85	16	\$137,480.60
Cleaners.....	13	10,010.00	3	1,827.00	16	11,837.00
Compressors.....			1	3,782.00	1	3,782.00
Cranes.....	1	11,995.00			1	11,995.00
Graders.....	2	1,699.00	5	6,687.90	7	8,386.90
Heaters (Tar).....	2	638.00	14	6,890.00	16	7,528.00
Loaders.....			3	23,100.00	3	23,100.00
Mixers (Bit.).....			1	2,700.00	1	2,700.00
Mowers (Hi Way).....			29	39,312.07	29	39,312.07
Mowers (Hand).....	1	132.50	3	1,076.60	4	1,209.10
Mud Jacks.....	1	4,100.00			1	4,100.00
Pumps.....	3	1,125.90	2	389.00	5	1,514.90
Rollers.....			4	10,358.50	4	10,358.50
Saws.....			1	385.00	1	385.00
Shovels.....			1	10,973.00	1	10,973.00
Spreaders (Asphalt).....			1	5,000.00	1	5,000.00
Spreaders (Chip).....			2	1,448.00	2	1,448.00
Sweepers.....			1	1,150.00	1	1,150.00
Tractors.....			1	203.21	1	203.21
Trailers.....	1	215.00	2	8,426.10	3	8,641.10
TOTAL MISCELLANEOUS EQUIPMENT.....	33	\$104,163.15	81	\$186,941.23	114	\$291,104.38
GRAND TOTAL OF ALL EQUIPMENT	103	\$195,226.72	225	\$543,203.04	328	\$738,429.76

- 2 Power Saws
- 1 Power Sander
- 1 Power Punch
- 1 Power Shears
- 1 Paint Striping Machine
- 1 Screen Side Truck
- 2 Pick-up Trucks
- 1 Passenger Car

TABLE 2

EQUIPMENT OF THE MARYLAND STATE ROADS COMMISSION AS OF JUNE 30, 1948

Type of Equipment	Number	Type of Equipment	Number	Type of Equipment	Number
PASSENGER CARS		TRUCKS (Cont.)		MISCELLANEOUS EQUIPMENT (Cont.)	
Buicks	31	PICKUPS (Cont.)		Crushers	5
Cadillacs	1	Internationals	1	Ditchers	1
Chevrolts	119	Plymouths	1	Drills (Core)	4
TOTAL PASSENGER CARS	151	PILE DRIVER MOUNTED		Engines (Gas)	18
TRUCKS		Dodge	1	Engines (Diesel)	1
CARRY ALLS		SCREENSIDES		Engines (Traction)	1
Chevrolts	13	Chevrolts	11	Finishers (Transverse)	1
CHASSIS		Dodges	1	Graders	31
Dodges	1	Fords	3	Graders (Fine)	1
COMPRESSOR MOUNTED		Indianas	1	Graders (Form)	1
Chevrolts	1	STAKE		Heaters (Tar)	123
Dodges	1	G.M.C.	1	Impactors	1
Fords	1	STATION WAGONS		Lighting Systems	4
CORE DRILL MOUNTED		Ford	1	Loaders	21
Federals	1	Internationals	2	Mixers (Bit)	35
CRUSHER MOUNTED		TANK		Mixers (Conc.)	14
Macks	1	Internationals	1	Mowers (Hand)	9
DISTRIBUTORS		TOWER		Mowers (Hi Way)	100
G.M.C.	1	G.M.C.	2	Mud Jacks	1
DUMPS		TRACTORS		Paint Machines (Hand)	2
Autocars	1	Federals	1	Pavers	2
Dodges	12	Internationals	6	Pile Drivers	4
Federals	113	TRAFFIC SIGNAL MAINT.		Planers	17
Fords	2	Chevrolts	2	Pumps	32
F.W.D.	35	UTILITY		Rollers	98
G.M.C.	3	Federals	1	Saws	3
Indianas	20	VANS		Scrapers	1
Internationals	16	Chevrolts	1	Scythes (Motor)	1
Macks	73	WELDERS		Shovels	14
Oshkoshs	9	Fords	1	Snow Plows (Rotary)	2
Walters	12	WRECKERS		Sprayers (Asphalt)	1
Whites	25	Dodges	1	Spreaders (Asphalt)	1
FLAT		TOTAL TRUCKS	435	Spreaders (Concrete)	1
Federals	1	MISCELLANEOUS EQUIPMENT		Sweepers	16
MUD JACK		Auto Patrols	60	Tractors	37
International	1	Boats	2	Trailers	25
PAINT		Boring Machines	3	Vibrators	2
G.M.C.	1	Breakers (Pavement)	1	Welders	7
PANELS		Cleaners (Steam)	25	TOTAL MISCELLANEOUS EQUIPMENT	775
Dodges	1	Compressors	25	GRAND TOTAL—ALL EQUIPMENT	1,361
TRUCKS		Conveyors	17		
Chevrolts	47	Crack Fillers	3		
Fords	4	Cranes (Mobile)	1		

During the fiscal years 1947 and 1948, the Sign Shop personnel have manufactured or repaired and erected the following:

- 1,800—Metal School Signs
- 600—Metal Luminous Stop Signs

- 3,000—10" x 18" Metal Signs—Arrows, Town Markers, By-pass, No Dumping, Beginning, End, Alternate, Maintenance Stakes.
- 2,040—Highway Junction Signs
- 625—3' x 4' Metal on Wood—Road Under Construction Signs, Direction and Distance Signs.
- 2,637—2' x 3' Metal on Wood—Load Limit, Dangerous Curve, Keep to Right, Direction and Distance Signs.
- 1,237—Traffic, Boulevard Stop, Dangerous Intersection Signs.
- 600—6½" x 54" Wood, Vertical, Men Working Signs.
- 1,121—18" x 36" Metal on Wood—River and Stream Markers, One-way Traffic, Direction and Distance Signs.
- 1,000—Symbol Signs.
- 20,450—Roadside Delineators, Headwall Markers.
- 1,063—2' x 4' Metal on Wood—Keep to Right, No Left Turn, No "U" Turn, Direction and Distance, State Police Signs.
- 800—10" x 10" Bulls Eye and Crossover Markers.
- 650—20" x 30" Metal on Wood—Cattle Crossing Signs.
- 4,700—18" x 24" Metal—School and Parking Signs.
- 5,750—8" x 48" Wood Panels—Direction and Distance Signs.
- 220,000—No. 5 Reflector Buttons for Luminous Signs.
- 38,000—No. 1 Reflector Buttons for Guard Rail Marking.
- 15,000—1½" Reflectors for Delineators.
- Miscellaneous—Office Lettering, Ferry Signs, Bridge Signs, State Police Signs, Contractors Construction Signs, Etc.

Of the above signs, exclusive of reflectors and luminous buttons, 95% were made in the central sign shop at Southern Avenue, being lettered by hand and the silk screen process.

Normally, sign repainting is necessary every 4 or 5 years, but due to vandalism, automobile demolition, etc., replacements and repairs must be made as soon as possible to insure safety.

Surface Marking

The paint machine operating out of the Central Sign Shop has applied center line and lane stripes to approximately 2,600 miles of State highway each year, plus the surface marking of school zones, intersections and railroad crossings.

Surface lettering, danger point marking, and center line spotting for striping are done by local shop crews.

Small paint spray units have been allocated to each District for the painting of guard rail, surface stencil lettering of school zones, cross-walks, and railroad crossings. Work done by these units is more economical and more efficient than that done by hand.

Arrangements are being made to install new and replace old Federal Aid project signs. This is a small marker placed parallel to the road indicating that Federal funds have aided in the construction of certain sections.

In order to improve the visibility of surface markings, this Commission has under test, on several road sections, "cat eye" reflectors. In addition, paint containing reflector buttons has been applied. Indications are that both of these methods are a definite improvement. The economics of the operation will probably be the determining factor for future installations.

ROADSIDE DEVELOPMENT DIVISION

The Roadside Development Division's activities are under the supervision of the Landscape Engineer. He has under his personal supervision a Landscape Superintendent and trained landscape crews which operate out of Baltimore City and work in all six of the Commission's districts. They handle, assist, or supervise the Commission's work pertaining to landscaping.

This Division's routine work consists of maintaining in good condition all the trees and shrubbery planted by or under the direction of the Commission. It gives landscape advice and assistance to the various departments of the Commission—the Construction and Maintenance Divisions, the Right-of-way Division in helping obtain rights-of-way involving landscaping and estimates, the Division of Bridge Design for controlling erosion on areas adjacent to their bridges, and the District Engineers. It also gives advice to other State Departments, including municipalities, towns, and State institutions.

This Division cooperates very closely with garden and other civic organizations throughout the State. It furnishes advice and labor to these organizations on all their approved roadside planting projects. Under this policy, thousands of trees and shrubs have been furnished by civic organizations and planted by the Commission. The Division takes great pride in these plantings and special effort is given to their maintenance so as to assure successful and creditable results.

The Landscape Engineer is available to accompany the Construction Engineer on reconnaissance and surveys for the purpose of integrating landscape features and principles in the construction of highways and their appurtenances. The integration of such principles and practices in the location and design of the highway results in having a complete highway built around the four basic qualities of utility, safety, beauty, and economy.

The inclusion of erosion control by mulch-seeding, sodding, or other landscape methods in our original highway construction contracts has proven its worth, and is being done on most projects. As an economy measure the Commission has turned to this Division for the control of erosion in highly erosive areas which heretofore were controlled by the construction of artificial structures. These structures in most cases were very costly.



TO CONTROL EROSION ON SLOPES, HONEYSUCKLE IS PLANTED IN CONTOUR TRENCHES. IN GUTTER AREA AND PART WAY UP THE SLOPE SOD IS PLACED. THIS COMBINATION IS EFFECTIVE AS WELL AS ATTRACTIVE

The Division's accomplishments for the fiscal years 1947-1948 done by contract and for which this Division supplied the plans, specifications and supervision are listed as follows:

July 9, 1946.....	Contract Wi-197-1-111, Middle Neck Relocation 0.331 miles, 2,300 sq. yd. top soil furnished and placed, 20,500 sq. ft. park area seeding, 700 sq. yds. sodding.
August 27, 1946.....	Contract Ce165-1-211, Elkton-Chesapeake City Road, North and South Approaches to Chesapeake and Delaware Canal Bridge, 5.554 miles, 48,000 sq. yds. placing stock-piled topsoil, 12,000 sq. yds. sodding.
July 1, 1947.....	Sm-281-1-550, Leonardtown-Hollywood Road, 2.301 miles, 9,300 sq. yds. placing stock-piled topsoil.
July 1, 1947.....	Ce-306-211-H-309-411, U.S. Route 40 Principio-Fox's Hill, U.S. Route 40 Elkton-Delaware Line, Md. Route 7 Pulaski Highway-Union Avenue, Havre De Grace along U.S. Route 40, 225 sq. yds. sodding.
August 5, 1947.....	H-307-411, Pulaski Highway east of Winters Run, 50 sq. yds. furnished and placed topsoil, 50 sq. yds. sodding.
November 12, 1947.....	Q-170-4-280, Bulkhead at Matapeake Ferry Terminal, 200 sq. yds. sodding.
January 27, 1948.....	G-155-2-677, Oakland-Keyser's Ridge. Intersection of Third and Crook Streets, Oakland northeast toward Keyser's Ridge, 6,850 cu. yds. salvaged topsoil, 49,200 sq. yds. stock-piled topsoil placed, 1,000 sq. yds. sodding.
February 24, 1948.....	B-576-1-415, Ho-236-1-315, Edmondson Avenue Extension-Pine Orchard, 4.998 miles, 88,200 sq. yds. topsoil furnished and placed, 793,000 sq. ft. park area seeding.
April 6, 1948.....	Ho-164-2-315, West bound drive Edmondson Avenue Extended, 3.024 miles, 53,600 sq. yds. stock-piled topsoil placed, 72,600 sq. yds. mulch-seeding, 146,000 sq. ft. park area seeding, 14,000 sq. yds. sodding.
May 4, 1948.....	AA-393-1-315, Md. Route 404 from Governor Ritchie Highway-Sandy Point, 4.224 miles 23,300 sq. yds. placing stock-piled topsoil, 48,650 sq. yds. topsoil furnished and placed, 64,800 sq. yds. mulch-seeding, 438,000 sq. ft. seeding park area, 1,675 sq. yds. sodding.
May 4, 1948.....	B-470-2-450, Butler Road-Hanover Road-Worthington Avenue, 1.181 miles, 7,900 sq. yds. mulch-seeding, 6,850 sq. yds. sodding.
May 18, 1948.....	H-314-2-415, Pulaski Highway Beg. 1.5 miles east of Little Gunpowder Falls and extending to 0.5 miles east of Bynum Run, 6.157 miles, 68,000 sq. yds. placing salvaged topsoil, 700 sq. yds. mulch-seeding, 2,000 sq. yds. furnished topsoil.
May 18, 1948.....	H-314-3-415, Pulaski Highway Beg. 0.5 miles east of Bynum Run-Aberdeen, 5.17 miles, 49,000 sq. yds. placing salvaged stock-piled topsoil, 11,000 sq. yds. placing furnished topsoil, 1,000 sq. yds. mulch-seeding.
June 8, 1948.....	B-392-2-415, Wilkens Avenue Extended-Washington Boulevard, 3.174 miles, 15,000 sq. yds. placing furnished topsoil, 54,000 sq. yd. mulch-seeding, 135,000 sq. ft. park area seeding, 1,000 sq. yds. sodding.
June 22, 1948.....	B-579-2-415—H-314-4-415, Pulaski Highway beginning 2,200 ft. east of Cowenton Road-1.5 miles east of Little Gunpowder Falls, 5.052 miles, 70,000 sq. yds. placing salvaged stock-piled topsoil, 8,000 sq. yds. placing furnished topsoil, 600 sq. yds. mulch-seeding.
June 29, 1948.....	AA-368-2-358, Washington-Baltimore Expressway from Patapasco River-Hammonds Ferry Road, 1.153 miles, 59,000 sq. yds. placing salvaged stock-piled topsoil, 98,000 sq. yds. mulch-seeding, 111,000 sq. ft. park area seeding, 21,700 sq. yds. sodding.

The most outstanding accomplishment made in the period of this report and in which this department proudly took part was the establishing of two scenic preserve areas along the New Frederick—Hagerstown Highway. These areas, averaging about seven miles each, are known as the Gambrill Scenic Area and the South Mountain Scenic Area, and were established in August of 1947. Prior to the establishing of these areas, several meetings were held, sponsored by the Confederation of Western Maryland Communities, Inc., and attended by representatives of the above confederation, General Outdoor Advertising, Bankers of Frederick, Petroleum Association, Potomac Poster Advertising Corp., Maryland State Grange, Farm Bureau, Beverage Association, Hotel Associations, Petroleum Industries, Real Estate Association, the State Roads Commission, and also by many individuals. These scenic preserves were established by posting appropriate markers at each end of the two locations. It was agreed by all those in attendance at the various meetings, that they would discourage any commercialization, adjacent to the above selected areas, which may reasonably be recognized as being in conflict with the special objective—the preservation of the scenic and natural beauties existing along these scenic areas as designated by the boundary markers.

Requests and even demands for landscaping are being constantly received by the Commission, not only from our own engineering staff but from individuals, civic groups, organizations, both federated or otherwise, and from Planning Commissions of Counties, State, and the Federal Government, and it is becoming more and more apparent that we should have a more comprehensive landscape treatment of our highways, especially the new highways now being built. The treatments should include the installation or creation of the many landscape features proven practical in other States not only from the standpoint of attractiveness but proven beyond a doubt to provide utility, economy, and safety. It is the feeling of this Division that we will have a great opportunity to make unlimited and worthy contributions toward a very successful conclusion of the largest highway building program in the history of the State, a program now well under way to provide a system of fine highways complete in every respect.

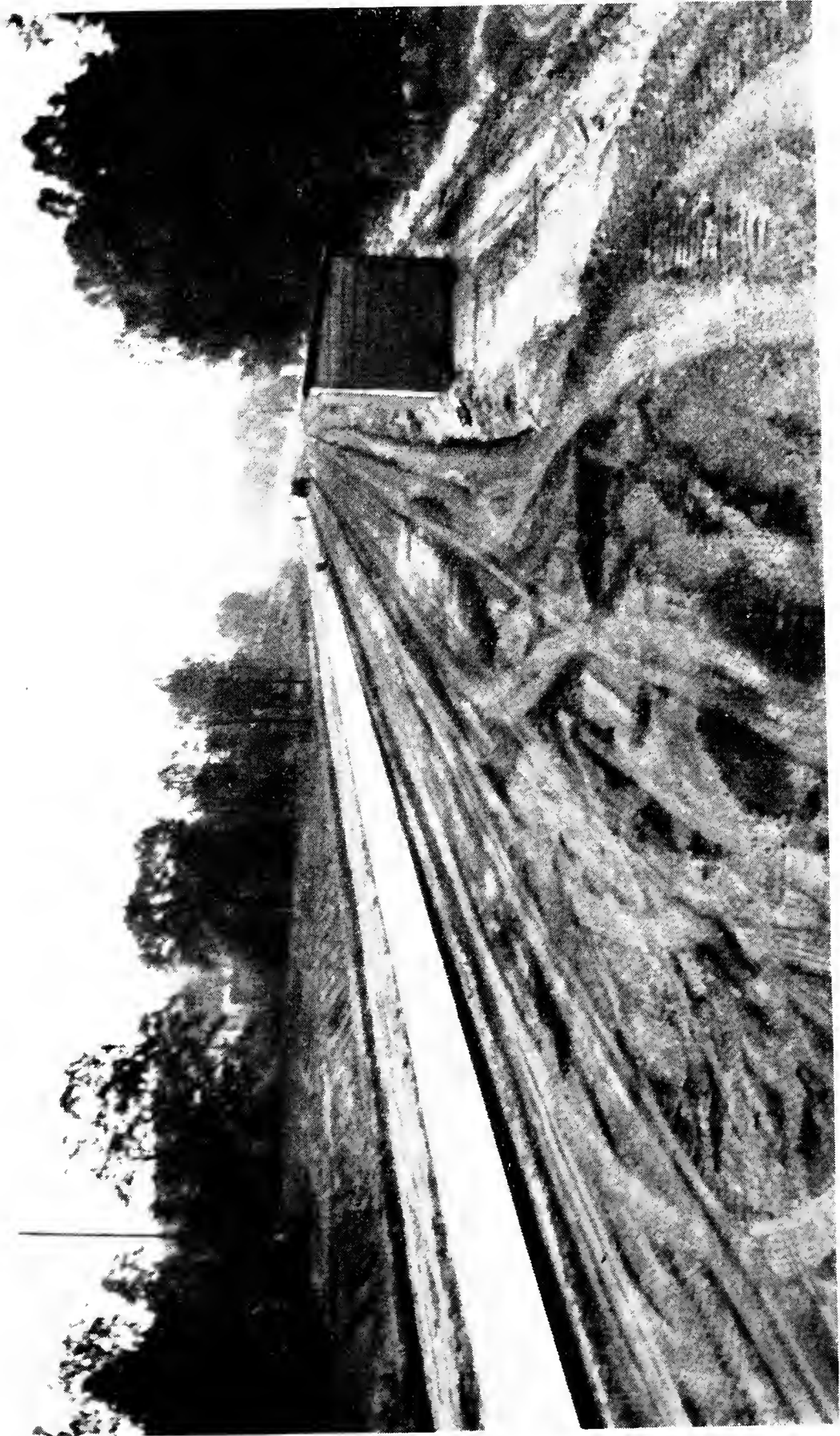
CONSTRUCTION DIVISION

THOMAS M. LINTHICUM

Construction Engineer

WARREN B. DUCKETT

Assistant Construction Engineer



EXTENSION OF WILKENS AVENUE TO WASHINGTON BOULEVARD. FIRST 12 FOOT LANE OF PAVING (68 FEET CURB TO CURB)

CONSTRUCTION DIVISION

This Division is responsible for keeping in close contact with and observance of the manner in which the work is being performed by contractors, to see that the projects are sufficiently staffed for adequate inspection, and that the contractor's progress is comparable to the time consumed. Monthly progress reports are submitted to the Chief Engineer by this Division on road projects, and drainage projects involving structures of less than twenty-foot span, and by the Division of Bridge Design on projects involving larger structures. In addition, the Construction Division maintains a direct contact between the Chief Engineer and the six District Engineers.

During the past two years this Division has participated in conferences for the revision of the General Specifications and has assisted in writing Special Provisions for the control of new projects.

The Division interviews and hires applicants for highway and bridge construction positions, subject to examination by the State Employment Commission, assigns personnel to the several District Engineers and the Division of Bridge Design for the inspection of work on highway and bridge projects.

There has been a considerable turnover and increase in inspection personnel since June 30, 1946. This has necessitated frequent adjustment of assignments and has been efficiently handled by the Assistant Construction Engineer.

The Division has been handicapped by an insufficient number of employees trained and experienced in road and bridge construction. However, by spreading the experienced men "mighty thin"; hiring as many college trained engineers as applied for work; employing a number of college students for summer work; using others with some construction experience; and by assigning a number of inexperienced men, it has been possible so far to staff each project. There is some indication now that additional experienced engineers may be attracted to our large construction program for field assignment. In some instances, college students employed on a temporary and emergency basis have signified that they would like to return, after graduation, for permanent employment.

A comparison of the personnel for the fiscal years 1946, 1947, and 1948 is shown on Page 32:

It can be readily seen from this tabulation that the increases have obtained in the lowest group, which is made up mostly of inexperienced men.

In an attempt to obtain future employees of high caliber in the four engineering grades and the three road inspector groups with which the Construction Division is concerned, as well as classifications in other departments of the Commission, department heads and a member of the Advisory Council held several conferences during the past year and it was decided, with the approval of the Chief Engineer

and the Commission, to step up the educational and experience requirements all around.

As a result of the use of air-entraining cement which was started on highway construction in 1946, young, active and versatile employees are needed to conduct accurately and quickly the tests to determine the percentage of air contained in the concrete mixes designed for and used in pavement and bridge construction. Employees having these characteristics are needed to perform the soil compaction density tests required in connection with embankment construction, and the gradation tests that must be made at all plants that produce asphaltic concrete, Spec. 'B', for resurfacing of existing pavements. In some instances, a number of men are being gradually trained in the field, without benefit of help from the laboratory, to carry on this important work. The Construction Engineer plans with the cooperation of the Materials Engineer to conduct classes of six to ten men during the coming winter, in order to train men in the performance of the tests mentioned.

It is anticipated that the number of men that will be required for the ensuing year will be twice that shown for 1948. The construction of the dual highways on which surveys are being made and plans prepared will begin to materialize in the field from now on.

	Fiscal Year ending June 30, 1946	Fiscal Year ending June 30, 1947	Fiscal Year ending June 30, 1948
Construction Engineer	1	1	1
Asst. Construction Engineer	1	1	1
Senior Stenographer	1	1	1
Junior Stenographer	0	0	1
Jr. Asst. Bridge Engineers, Grade I	5	4	6
Jr. Asst. Bridge Engineers, Grade II	3	2	2
Jr. Asst. Highway Engineers, Grade I	13	14	22
Jr. Asst. Highway Engineers, Grade II	4	4	10
Road Inspectors, Grade I	23	26	28
Road Inspectors, Grade II	27	36	48
Road Inspectors, Grade III	13	11	62
Total	<u>91</u>	<u>100</u>	<u>182</u>

The Construction Engineer has conducted, in conjunction with District Engineers and Public Roads Administration Engineers (in those instances in which Federal funds participate) preliminary inspections and made recommendations in regard to alignment, grades, and drainage on 100.864 miles of proposed new construction for the fiscal year ending June 30, 1947, and 176.7467 miles during the fiscal year ending June 30, 1948. Thirty-seven separate contracts were completed during the period July 1, 1946 to June 30, 1947, and eighty-one contracts were completed from July 1, 1947 to June 30, 1948. The contract costs for the years covered by this report amount to \$4,891,208.38 and \$7,617,487.13, respectively.

The various types of construction performed, exclusive of large bridges, are as shown:

	FISCAL YEARS ENDING	
	June 30, 1947 Miles	June 30, 1948 Miles
Reinforced Cement Concrete Surface.....	13.435	10.783
Asphaltic Concrete, Spec. 'B', Plant Mix Surface.....	40.484	133.673
Penetration Macadam Surface Course.....	5.027	12.632
Sand Bituminous Road Mix Surface.....	10.500	6.739
Bituminous Road Mix Surface, Coarse Aggregate.....	7.840	7.000
Gravel Surface.....	0.618	32.585
Reinforced Cement Concrete and Penetration Macadam Surface.....	.....	0.331
Reinforced Cement Concrete Surface (2-2 Lane) plus Median Strip (Divided Highway).....	3.086	0.650
Reinforced Cement Concrete Surface, Dual Highway....	3.332	.....
Plain Cement Concrete Widening, Macadam Widening, and Penetration Macadam Surfacing.....	0.178	2.400
Bituminous Stabilized Base Course and Asphaltic Con- crete Surface (Spec. 'B').....	.....	2.310
Macadam Base Course and Bituminous Road Mix Sur- facing, Coarse Aggregate.....	.....	3.294
Bituminous Stabilized Base Course.....	7.931	2.718
Soil Cement Base Course.....	.....	1.837
Stabilized Soil Base Course.....	.....	3.056
Shoulder Widening, Asphaltic Concrete, Spec. 'B'.....	.....	8.200
Shoulder Widening, Cement Concrete.....	.....	12.070
Shoulder Widening, Penetration Macadam.....	.....	16.975
Erosion Control.....	7.660	13.845
Storm Sewers.....	0.773	0.045
Total.....	100.864	271.134

MISCELLANEOUS ITEMS

	No.	No.
Concrete Crossovers.....	3	.....
Property Adjustments.....	2	3
Repairs to Bridges.....	2	1
Reinforced Concrete Box Culvert 12' x 6'.....	1	.....
Reinforced Concrete Box Culvert 12' x 9'.....	.....	1
Concrete Girder Bridge.....	1	.....
Channelization—Penetration Macadam Surface and Concrete Curbs.....	.....	1
Channelization—Cement, Concrete Surface and Concrete Curbs..	.....	1

On July 1, 1948 twenty-eight road projects, comprising 115.93 miles, were carried over into the ensuing fiscal year. In addition, twelve drainage structures large and small, two property adjustment contracts and one building contract were also carried over into the fiscal year 1949. The total of the low bids for this work amounts to \$16,242,958.65, which does not include the large bridge contracts not completed June 30, 1948 and carried over into the ensuing year.

Under the planned reorganization, the Construction Division will be under the immediate supervision of an Assistant Chief Engineer—Construction, who will also have supervision over the Division of Road Design, the Division of Bridge Design, and the Materials Division.

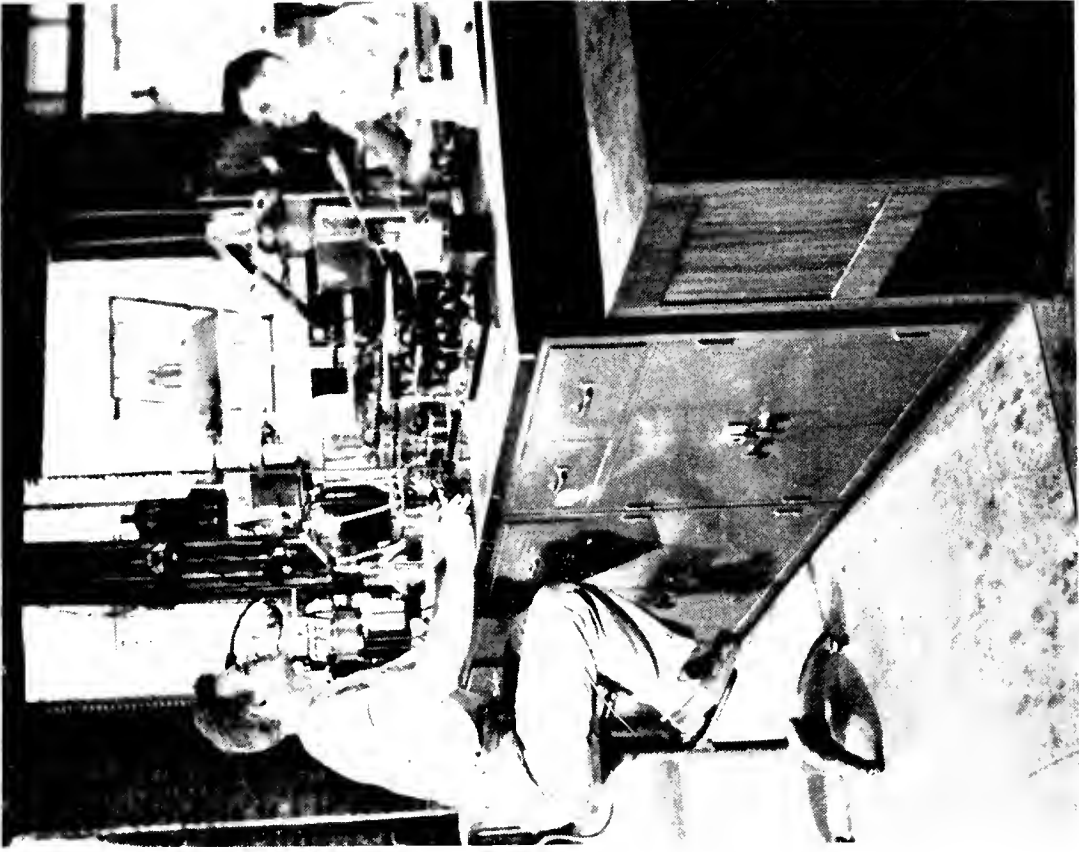
MATERIALS DIVISION

J. ELDRIDGE WOOD

Materials Engineer

B. GORDON HESSON

Sr. Assistant Highway Engineer, Grade II



THE COMPOSITION AND SOME OF THE PHYSICAL TESTS ARE CONDUCTED IN THIS PART OF THE BITUMINOUS SECTION AT THE TESTING LABORATORY



CHEMICAL SECTION OF THE LABORATORY, WHICH TESTS A VARIETY OF MATERIALS IN WHICH CHEMICAL COMPOSITION IS OF SIGNIFICANCE

MATERIALS DIVISION

The function of the Materials Division is to inspect, sample, analyze, test, approve and control the quality of all materials entering into the construction and maintenance of roads, bridges, and State Roads structures. By these measures, the Division ensures that the materials obtained are equal or superior to those specified by contract.

The work of the Division falls into two categories; the field and laboratory. The field personnel obtains samples of materials for the laboratory, and controls the quality and quantity of materials through appropriate field tests.

The laboratory staff is charged with refined analysis, physical testing and final approval or rejection of materials. Consistent with a policy of fairness to the manufacturer of a material, rejected on the basis of laboratory tests, impartial private laboratories have been engaged by the Commission to retest several questionable materials. Without exception the laboratory recommendations for rejection have been confirmed.

In the period covered by this report there was an increase of 97.8 per cent or almost double the number of samples tested over the previous two year period. There remained a small backlog of untested samples.

The heavy demand was met by the expedient of bringing in temporary summer employees. The majority of these required considerable training at the cost of time to the permanent personnel. Recent additions to the permanent staff, increasing it from 21 to 31 members, should prove more economical by raising the overall degree of training and efficiency of the group. Such increase should reduce the backlog of samples and provide a more adequate staff to cope with the current expanded road building program.

With the increased personnel, additional equipment and larger volume of work, it is evident that the present laboratory building at 647 W. Redwood Street has become outmoded, cramped and unsuitable.

The work of the Materials Division is carried on under five sections—Soils, Chemical, Bituminous Materials, Bituminous Concrete, and Portland Cement Concrete.

SOILS SECTION

It has been only within the last score of years that the long neglected engineering properties of soil have been crystallized into a definite practical form. Rapid and thorough progress has been made in the understanding of shrinkage, expansion, compaction and moisture which control the structural stability of soils. Methods

for measuring these properties and a system of soil classification have been devised and found to be valid.

The analysis and classification of all soils encountered along a proposed right-of-way, together with a design for soil mixtures to be used where the subgrade is unsuitable, are the results of a soil survey, which is conducted in the following manner:

After preliminary location surveys and tentative line and grade have been established, samples of all soils involved are obtained from borings. When the analysis and classification of the soils is completed, suggestions are made for the use of each soil type from the standpoint of its engineering properties. Recommendations are tendered for changes in line or grade and modification of design because of the occurrence of swamp muck, deposits of unsuitable soils, subsurface water sources and other conditions conducive to differential settlement. The existence of good top soil and high-grade subsoils for base or subbase use is noted. Maryland Geological Survey Maps, U. S. Department of Agriculture soil maps, and experience contribute to the accumulation of this necessary information.

Borrow material, gravel, backfill, and subbase specifications describing the best prevailing soils are developed at this time.

Later the initial approval, and subsequent control of these factors together with the solution of any unforeseen problems requiring special study are accomplished by regular inspection trips.

This field work includes the supervision of compaction control. The degree of compaction attained is measured by tests conducted by the construction personnel. The results of these tests are compared with laboratory densities for each particular soil involved. Compliance with these density requirements is necessary to insure a uniform and stable foundation throughout the project. A close collaboration between the Construction Division and the Materials Division has been effected to accomplish this end.

Soils statistical data

	July 1, 1946 to June 30, 1947	July 1, 1947 to June 30, 1948	Total
Borrow pits sampled and analyses performed.....	132	164	296
Gravel pits sampled and analyses performed.....	291	223	514
Top soils sampled and analyses performed....	15	23	38
Soils sampled from surveys and analyses performed.....	558	492	1,050
Proctor density and moisture determinations made.....	502	672	1,174
51 Soil surveys were made and soil profiles prepared for proposed construction of....	68.5 miles	63.5 miles	132.0 miles
Total routine classifications analyses of soil samples.....	5,422	5,090	10,512

Low cost roads, as the name implies, are made up of economical local material in combination with stabilizing agents such as soluble salts, limestone screening, cement, tar or asphaltic products to create an all-weather surface. Each individual



STRENGTH TESTS ARE CONDUCTED ON CEMENT, IN ADDITION TO OTHER PHYSICAL TESTS AND CHEMICAL ANALYSES



A TYPICAL FIELD LABORATORY WHERE CONTINUAL CHECKS FOR UNIFORMITY AND MOISTURE ARE MADE ON SAND AND GRAVEL



THE SLUMP TEST (FOREGROUND) IS INDICATIVE OF CONSISTENCY AND IS MADE FREQUENTLY AT BOTH LARGE AND SMALL JOBS



MEASUREMENT IS MADE OF THE AMOUNT OF AIR ENTRAINED IN CONCRETE

OFFICE AND FIELD CONTROLS OVER CONCRETE AND AGGREGATES

combination requires special study and testing technique. The amount and type of stabilizing agent required to yield a suitable combination, is predicated on tests conducted in the Soils section. In many instances, this personnel, acting in an advisory capacity, assists in the actual construction of projects of this type.

CHEMICAL SECTION

The surprisingly large variety and quantity of paint used by the State Roads Commission, establishes this as the most frequently tested material in which chemical composition is of significance.

Advances in paint technology, since the time when the best paint was "just lead an' oil" have brought forth specialized preparations for every purpose. Of necessity the chemical and physical requirements of paint, varnish and enamel are rigid. Upon the conviction that still better paints will be developed, the investigation of new products continues, consistent with practicability and economy.

The routine of the section includes analyses of: fertilizer used in roadside beautification, calcium chloride for low-cost soil stabilized roads and highway shoulder treatment, water for its suitability in concrete, and lime used as a soil neutralizer and for mortar.

Galvanized coatings on hardware and metal pipe are tested to ensure that the specification requirements are met.

Statistical data

	July 1, 1946 to June 30, 1947	July 1, 1947 to June 30, 1947	Total
Calcium chloride.....	6	6	12
Electrical conduit.....	0	4	4
Enamel, equipment.....	4	6	10
Enamel, sign.....	1	4	5
Fertilizer and lime.....	6	10	16
Hardware, galvanized.....	43	64	107
Miscellaneous.....	0	12	12
Paint, aluminum.....	6	6	12
Paint, bridge.....	36	39	75
Paint, Ferry System.....	11	15	26
Paint, guard rail.....	23	12	35
Paint, traffic.....	111	66	177
Pipe, corrugated galvanized metal.....	39	231	270
Pipe, helical.....	0	28	28
Water.....	27	23	50
Total tests performed.....	313	526	839

Several important investigations were conducted during the period of this report.

An improved coating for metal guard rail posts was adopted after thorough laboratory and field tests. Formerly the section of the post which was driven into the ground was covered with a cut-back asphalt leaving it tacky and inconvenient to handle. The newly adopted asphaltic varnish dries hard, affording convenience

in handling and tests showed it to be superior in resistance to the abrasive effects of being driven into the ground.

With the recent advances in paint technology, initial steps have been taken for the adoption of new specifications in sixteen different types of paint. Continual investigations are made to keep abreast of the latest improvements.

In order to better evaluate the thirty samples of traffic paint submitted with bids for the semi-annual contract, several conclusive field tests were performed in addition to the routine laboratory work.

The presence of certain minerals, acids and salts, dissolved in drain water pose a problem of corrosion to culvert and underdrain pipes which is solved by the chemical analysis of the contaminant and an investigation leading to the choice of a suitable type of pipe which is unaffected. Specific cases in point have been: water draining from mines in Western Maryland, tidal drainage of salt water, and subsurface water percolating through certain types of backfill material.

Preparatory work is in progress for the purpose of developing a method to evaluate anti-skid properties of bituminous concrete.

A new resinous type of concrete curing agent was investigated and found to be equal or superior in performance to the curing agents now acceptable. Although the compound tested does not meet material specifications, it is under study because of its additional advantages.

BITUMINOUS SECTION

This section conducts physical tests on all tar, asphalt, and asphalt emulsions used by the State Roads Commission. The large proportion of testing is to determine the quality of materials used for road surfacing and bases, damp and waterproofing preparations, and other preservatives and surface coatings.

Fuel and lubricants used by the State Roads vehicles and the Ferry System are tested prior to the awarding of the annual contracts for the supply of these pro-

Statistical data

	July 1, 1946 to June 30, 1947	July 1, 1947 to June 30, 1948	Total
Asphalt cement.....	26	228	254
Asphalt cutback.....	84	126	210
Asphalt emulsion.....	24	11	35
Creosote.....	1	4	5
Curing agents.....	26	19	45
Gasoline.....	1	6	7
Joint sealing material.....	13	17	30
Oil, form.....	5	2	7
Oil, fuel.....	12	11	23
Oil, lubricating.....	26	20	46
Naphtha.....	2	0	2
Paper, euring.....	1	0	1
Pipe, asphalt coated, corrugated.....	33	81	114
Tar.....	59	17	76
Water and Dampproofing materials.....	28	58	86
Total tests performed.....	341	600	941

ducts. Subsequent tests conducted during the contract period insure the continued quality of the fuels and lubricants as they are delivered.

Because payment for bituminous material used in surface treatment applied to roads is based on the number of gallons actually applied, it has become routine to frequently check the calibration of all distributors and highway transport tanks used in this work.

In the absence of an acceptable test for the adhesive qualities of bituminous materials when used with typical Maryland aggregates, a test procedure was developed and adopted as a specification requirement.

BITUMINOUS CONCRETE SECTION

Of all road surfacing methods, the greatest advancement and increased use has been made with a flexible covering known as Specification "B". It consists of a course or courses, comprised of asphalt cement and carefully chosen graded aggregate, laid upon a worn, rough or badly disintegrated existing highway of acceptable line, grade and adequate foundation.

The success of such a road depends largely upon the strict control and supervision exercised by inspectors at the plant and on the job.

In addition to the plant control, mix samples are sent daily to the laboratory for thorough analysis and test. Periodic samples are subjected to a stability test measuring the toughness by determining the resistance to deformation. In the analysis, the asphalt cement is extracted from the sample and the remaining aggregates separated into nine specific screen sizes. The percentage of each screen size is compared with the specification requirements and accepted design criteria. The meeting of these requirements together with the correct proportion of asphalt cement assures the durability of the pavement.

During this period 528 bituminous mix samples were tested, representing 57.19 miles of finished highway.

To achieve the above separation, a refluxing device and the incidental procedure was perfected so that the several ingredients could be studied individually. The accuracy of the method has been proven by the analysis of precise control samples submitted by recognized laboratories working in this field. The Division has been invited to submit this procedure to the appropriate national body for consideration as a standard test method.

PORTLAND CEMENT CONCRETE SECTION

"Before, during and after" properly describes the span of controls on concrete for State roads and structures.

Before any concrete work is begun, this section tests specimens of fine and coarse aggregates, water, and cement for initial approval. Based upon their relative qualities, a mix design of proportional quantities is evolved. Reinforcing steel to be used is examined for tensile strength, quality, size, and fabrication.

During the construction period, the qualities, condition and quantities of the

concrete ingredients are continually checked and minor proportioning adjustments are made on the project. Samples of concrete are taken for immediate tests on the job and other portions are moulded into standard shapes for the measurement of compressive and flexural strength.

After the project is completed, road sections are core drilled and measurements made to ascertain if the thickness of concrete slabs is equal to the requirements.

Statistical data

	July 1, 1946 to June 30, 1947	July 1, 1947 to June 30, 1948	Total
Brick.....	15	18	33
Block, concrete.....	7	5	12
Cement.....	38	41	79
Cores, concrete drilled.....	191	491	682
Cylinders, concrete.....	1,223	1,124	2,347
Gravel.....	106	136	242
Guard fence, fittings and cable.....	14	9	23
Hardware, miscellaneous.....	121	8	129
Joint Filler, premoulded.....	34	32	66
Miscellaneous.....	24	14	38
Mix designs, concrete.....	115	102	217
Pipe, cast iron.....	2	1	3
Pipe, concrete—plain.....	0	1	1
Pipe, concrete—reinforced.....	89	164	253
Pipe, vitrified, plain.....	1	6	7
Sand.....	132	155	287
Screenings and dust.....	90	97	187
Slag.....	24	45	69
Steel, reinforcing.....	226	197	423
Stone.....	82	129	211
Wire and mesh.....	85	149	234
Total tests performed.....	2,619	2,924	5,543

In late 1946 under the guidance of representatives of the Portland Cement Association, members of the section studied the accepted means and methods of obtaining and measuring air-entrainment in concrete. Proponents of air-entrainment claimed that the process reduces scaling caused by freezing and thawing and increased the durability of the pavement at the expense of a negligible loss in strength. A greater workability of the mixture is obtained by this method with the use of less water.

In 1947 several classes were held in the laboratory by our personnel to instruct State roads inspectors in methods of producing air entrainment in concrete and the procedure for computing the amount of air in the mix.

Laboratory tests and a field investigation confirmed the feasibility of using an additive with standard Portland cement for the production of air-entrained concrete.

CONCLUSION

In each section routine control has been maintained, specifications have been improved, and new processes have been developed. This is consistent with the

extensive industrial research in materials and advancements in road building technique.

On occasions where it is uneconomical to send an inspector from this Division to a distant, out-of-state plant or mill, his duties are delegated to one of the four strategically located inspection agencies retained for this purpose.

As the need arose, through the addition of personnel and the introduction of new methods and materials unfamiliar to experienced personnel, classes were instituted to train those requiring it. Instruction was conducted by trained materials personnel or qualified outside specialists through the medium of lecture, demonstration and, where practical, by participation.

The Materials Division is appreciative of the assistance and cooperation received from other Departments and Divisions.

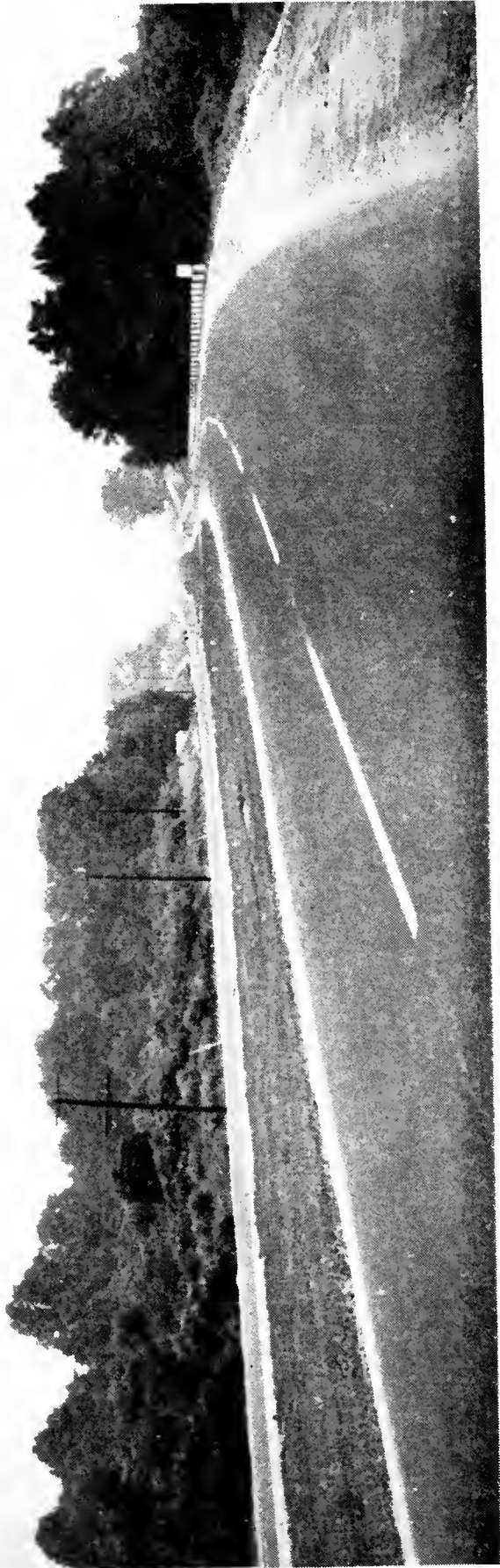
RIGHT-OF-WAY DIVISION

LEROY W. KERN
Right-of-Way Engineer

R. DONALD WOOTEN
Assistant to Right-of-Way Engineer

LEROY C. MOSER
Assistant Right-of-Way Engineer
Appraisals and Negotiations

LOUIS A. YOST, JR.
Assistant Right-of-Way Engineer
Appraisals and Negotiations



PULASKI HIGHWAY—U.S. ROUTE 40—BETWEEN ABERDEEN AND HAVRE DE GRACE. SHOWING ASPHALTIC CONCRETE RESURFACING, COMPLETED IN 1947

RIGHT-OF-WAY DIVISION

During the fiscal years 1947 and 1948 right of way work was performed on 65 and 52 projects respectively. These projects ranged from simple curve modifications to major projects such as the Baltimore-Washington Expressway, which latter project not only required a minimum of 300 feet of right of way throughout a built-up area, but had combined therewith the application of the principals of completely denied access and Highway Protective Easement Areas.

Depending upon the area traversed, its potentialities, the land use, and the type and design of the project, right of way work embodies some or all of the following phases of highway work:— making probable right of way cost approximation studies on alternate routes; establishing property lines; preparing property mosaics; obtaining title examination lead data; establishing values; analyzing the construction plans in order to determine the actual effect of the project upon the properties traversed; making pre-negotiation appraisals; negotiating and, in some instances condemning.

The time necessary for the proper performance of such work fluctuates with the characteristics of the area, the project, and, the ramifications of each taking.

The combined Wilkens Avenue Extended and the Arbutus-Halethorpe Grade Crossing Elimination projects, requiring the acquisition of 140 individual rights of ways, included in which were instances of damages to 27 residential and 5 business properties, and, the taking of 26 residential, 4 combined residential and business, and 7 business properties, is an example of the right of way work to be performed in connection with modern highway projects in built-up areas.

During the fiscal year 1948 the Commission adopted the recommendation of the Right-of-Way Division that survey parties obtain the title examination lead data as a part of their fact finding operations. The reallocation of this phase of right of way work makes possible the examining of titles concurrently with the performance of other preliminary engineering studies, and, should not only make available to the Right-of-Way Division such property mosaics as should be necessary at a much earlier date, but also should make such mosaics available to the designers, which is highly desirable, especially in the instance of controlled and/or completely denied access projects.

The application, during the fiscal year 1948, of controlled and/or completely denied access features to many major projects added to their design problems.

These particular features of modern highway design also added to existing right of way problems and created new problems.

Completely denied access projects necessitate much more extensive research into the physical and legal aspects of titles, more extensive and complete property

appraisals, and, in many instances, studies regarding the economics of assuming greater right-of-way costs vs. constructing outer or marginal roadways.

The inclusion of Highway Protective Easement Areas in the design of projects created entirely new problems necessitating the development of different approaches to owners and new concepts of resulting damages.

All of these new design features increase right of way costs, require additional time in right of way work, and, at the present time are intensifying the resistance and uncertainty of property owners toward the required takings.

The use of the immediate entry legislation has, in the original instance, expedited the putting of projects under contract, however, it must be remembered that eventually these cases must be tried, during which trials, and the preparation therefor, other right of way work suffers. It should be also noted that the use of this legislation has occasioned the actual trying of some condemnation cases at the most undesirable time, namely, while the project is under construction.

During these two fiscal years there has been an ever increasing demand for entrance permits and requests for information pertaining to widths and locations of existing rights-of-way, all of which has increased the volume of routine departmental work.

DIVISION OF ROAD DESIGN

ALLAN LEE

Engineer of Road Design

WALTER A. FRIEND

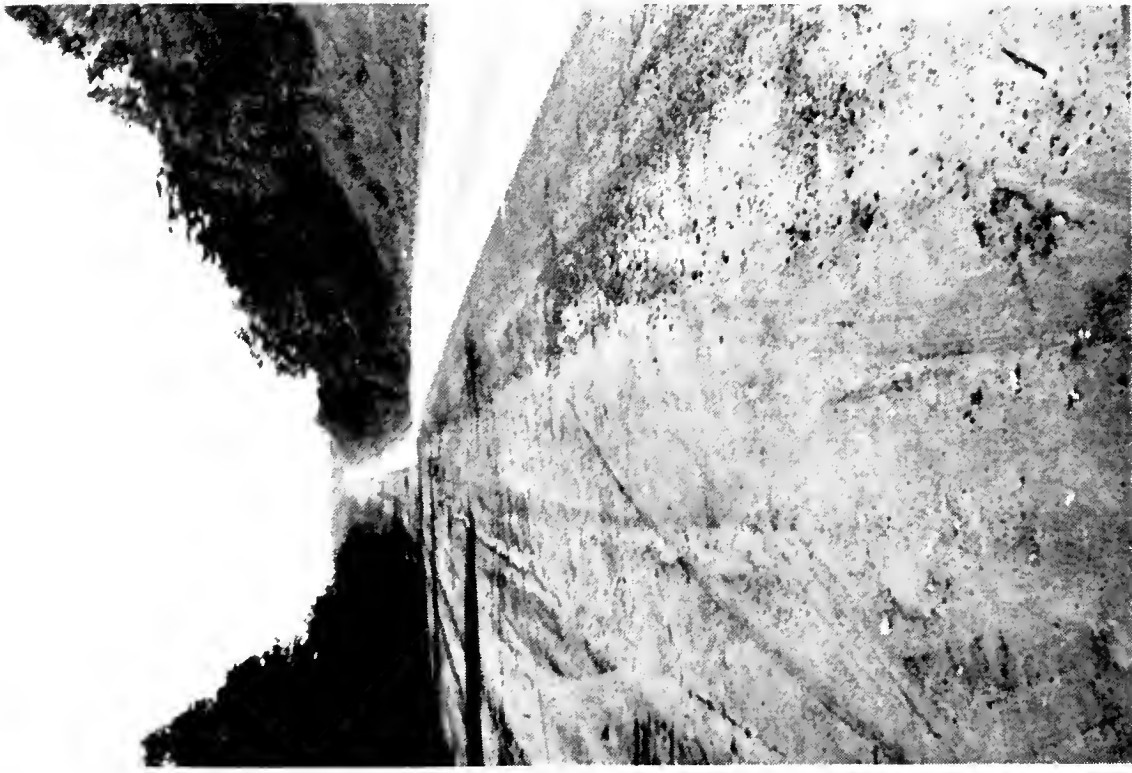
*Senior Assistant Highway Engineer, II
Design and Plans*

NORMAN M. PRITCHETT

*Senior Assistant Highway Engineer, II
Surveys and Location*

HERBERT C. BOWERS

*Junior Assistant Highway Engineer, I
Federal Contacts*



LOOKING TOWARDS THE GOV. RITCHIE HIGHWAY.
 GRADING FOR PAVING 2ND. LANE OF DUAL
 HIGHWAY



FROM THE GOV. RITCHIE HIGHWAY LOOKING
 TOWARD SANDY POINT

Md. ROUTE 404—REVELL HIGHWAY

DIVISION OF ROAD DESIGN

Mr. Laurence A. Kahn was Engineer of Plans and Surveys until October 1, 1947, at which time the Division was reorganized as the Division of Road Design with Mr. Allan Lee as Engineer of Road Design.

The duties of this Division broadly encompass all the work necessary to put into final form, plans for any year's highway program as scheduled by the Commission and Chief Engineer, as well as the final field measurements and check of quantities for payment to the contractor.

The various functions of the Division include highway location; centerline surveys after the location is tied down; preliminary engineering reports and economic studies; preliminary plans leading to a preliminary field inspection by representatives of the district in which project is located, the Construction Division, Public Roads Administration on projects involving federal funds, the Materials Division, and this Division; final plans including pavement design, drainage design, geometrics of design, and final detailed quantities; preparation of right-of-way plats for the acquisition of necessary right-of-way by the Right-of-Way Division, including mosaics of all properties crossed by the improvement, condemnation plats, deed descriptions, contract documents, including special provisions and proposal form; final surveys, which actually measure the acceptable items of work placed by the contractor, and check of resident engineers' sketch books for final payment to contractors.

Following is a brief description of work involved under each of the functions listed above.

HIGHWAY LOCATION

When locating a new highway facility, this Division must consider many factors: volume and type of traffic, nature of terrain, soil conditions encountered, advantageous crossing of streams and other highways, right-of-way widths, severance damage to farm lands, and type of control assigned to the highway.

Use is made of available contour maps for preliminary location study, the 7½ minute series being excellent for this purpose. For the more important facilities, use is made of scale airplane-photographs, and in some cases close interval contour maps prepared from airplane-photographs.

After this preliminary phase is completed, representatives of this Division walk the line in the field, make necessary shifts for local conditions, and "flag" the approximate line thus determined.

A traverse survey is then run which picks up all important topography and

allows a detailed location of the centerline to be placed on paper for centerline survey.

CENTERLINE SURVEYS

The finally-determined centerline—as selected above—is laid out in detail on the ground. Curves and spirals are run in, complete cross-sectioning of main line, as well as spur lines for entrances, intersecting roads, and streams is accomplished. Detailed information is assembled for all channelization, interchange, and structure locations. After plotting of all information obtained on centerline survey, the preliminary plans may be prepared.

PRELIMINARY ENGINEERING REPORTS AND ECONOMIC STUDIES

The preliminary engineering report consists of the finally-selected line shown on an enlarged quadrangle map (scale, 1" = 1,000', or better), a preliminary cost estimate, and a brief description of the project, outlining any unusual features in connection therewith.

If there is any question that another route or an alternate type of construction should be considered, complete economic studies are made to determine the more favorable one. These studies consider first cost, depreciation, salvage, and interest on investment to arrive at an annual cost.

PRELIMINARY PLANS

The detail paper map of the centerline survey is traced and a preliminary proposed grade-line is placed on these tracings. Due consideration must be given to design speed, sight distance, ground conditions, and highway drainage, as well as favorable earth-moving conditions, and sufficient height of grade for structure locations.

This Division assisted the Chief Engineer's Office in formulating a set of desirable highway design standards based on traffic and nature of terrain, and these standards are adhered to in all preliminary—and, of course, final—planning.

Representatives of various divisions as herein before outlined go over the job in detail in the field with the preliminary plans in hand. Conditions encountered are cooperatively studied, and incorporated in the details shown on the plans.

FINAL PLANS

After the preliminary field inspection, the design engineers prepare the final plans for advertisement.

Any changes required in the preliminary grade—as indicated by the field conditions—are made, and the final profile is completed.

If unsuitable earth material occurs which would make the subgrade unstable, its removal is designated and when this unsuitable material exists to considerable depths, blasting methods are required, necessitating very careful study and description in the Special Provisions.



RELOCATION OF U.S. ROUTE 140—REISTERSTOWN TO WESTMINSTER. LOOKING SOUTH TOWARD BRIDGE OVER NORTH BRANCH OF PATAPSCO RIVER



U.S. ROUTE 213—SALISBURY TO BERLIN. ASPHALTIC CONCRETE RESURFACING COMPLETED IN 1947

The pavement—rigid or flexible—is designed, taking into consideration character of subgrade and intensity and frequency of axle loadings.

Careful consideration is given to the appearance of the “finished product”; cut

slopes are benched where excessive in height, fill slopes are made quite flat (4 horizontal to 1 vertical) for fills up to ten feet on major facilities, seeding is provided in practically all major contracts so as to quickly provide a turf which will blend with the existing surroundings, and prevent unsightly scars and eroded slopes.

Drainage is very carefully designed, using rational design methods. Park area drainage and side ditch drainage are made of such sections that the highway is kept free of water, and that there is no danger of overflowing or eroding the ditches themselves. In culvert designs the type of cover, and probability of future use, as well as actual drainage area, is carefully studied.

Incidental structures, such as headwalls, retaining walls, concrete cribbing, etc., are indicated on the plans where needed, and are built according to standard detail sheets, or special details drawn up for the particular condition as required.

Channelization and interchange facilities, where required, are completely designed, taking into consideration desirable turning radii, suitable lengths of acceleration and deceleration lanes, easy grades on ramps and free flow of traffic. The Traffic Division of this Commission, cooperates with the Division of Road Design on such studies.

The quantities of every item entering into the highway construction are computed and inserted in the final sheet of quantities in such manner that prospective bidders may quickly ascertain the amount and kind of work which must be done along the entire job, station by station.

PREPARATION OF RIGHT-OF-WAY PLATS

The right-of-way plats prepared for the acquisition of the land required for the construction of the highways involve careful study and judgment. The width of right-of-way required is determined from the type of road and its ultimate capacity, in conformity with the adopted Desirable Standards. The necessary easements for slopes and drainage are determined from the preliminary cross-sections, proposed grades, and proposed drainage structures. The degree of access is determined, and the plats carry the necessary notations as to denied or controlled access.

In planning the right-of-way for major highways, the restriction of buildings on land adjacent to the highways is considered, and a width of easement, designated highway protective easement area, is shown on the plats.

Every effort is made to have these plats clear, so that property owners involved will have but little difficulty in determining to what extent they are affected by the proposed improvement.

PREPARATION OF CONDEMNATION PLATS

In cases where the Commission is required to condemn land for highway purposes, special plats are prepared for the acquisition of the land. A complete property survey, together with the location of all topography, is made. The outlines of the property involved are established from the field surveys and title data. The areas

required for the highway are computed, and a metes and bounds plat is then prepared. In connection with the condemnation trials, special plats are prepared, showing the entire property and the areas required for the highway. Typical cross-sections are prepared, showing the relation of the proposed grades to the existing ground, and drainage plats, showing the comparison between the drainage conditions before and after construction of the highway, are prepared. The areas to be acquired are staked in the field for inspection by the condemnation jury.

PREPARATION OF PROPERTY MOSAICS

The survey parties are required to determine the ownership of the various properties affected by the lines of the proposed highways.

This information is then referred to the Legal Department, and a complete title examination of each property is prepared. The descriptions of the properties are plotted, and the lines of the properties are shown on prints of the right-of-way plats. Plats are then prepared showing the relation of the proposed rights-of-way to the various properties crossed by the proposed highway. The areas to be acquired are computed, as well as the areas remaining on either side of the new highway. This information enables the Right-of-Way Division to appraise the damages and arrive at a basis of payment for negotiation with the property owners.

TABLE SHOWING PROPERTY PLATS PREPARED FOR RIGHTS-OF-WAY PURPOSES

Counties	JULY 1, 1946 TO JUNE 30, 1947			JULY 1, 1947 TO JUNE 30, 1948		
	R/W Plats	Condemn. Plats	Misc. Plats	R/W Plats	Condemn. Plats	Misc. Plats
Allegany	29	0	0	9	0	18
Anne Arundel	0	0	1	13	0	1
Baltimore	5	0	2	15	0	6
Calvert	6	0	0	1	0	1
Caroline	21	0	0	13	0	0
Carroll	26	1	0	13	0	0
Cecil	17	12	2	4	7	2
Charles	7	0	0	1	0	0
Dorchester	30	0	0	0	0	1
Frederick	2	0	0	0	0	1
Garrett	15	0	0	6	0	0
Harford	0	0	0	1	0	0
Howard	11	0	2	43	0	1
Kent	16	0	0	12	0	0
Montgomery	9	0	1	3	0	2
Prince George's	7	0	4	48	0	0
Queen Anne's	30	0	0	22	0	0
St. Mary's	8	0	0	1	0	6
Somerset	17	0	0	4	7	0
Talbot	3	2	0	5	0	0
Washington	19	0	0	1	0	0
Wicomico	15	0	0	29	0	1
Worcester	19	1	0	43	0	0
Total	312	16	12	287	14	40

CONTRACT DOCUMENTS

The specifications prepared by this Commission cover, in general, the construction methods, contract requirements, and covenants entered into for the performance of highway construction work.

In the preparation of the Proposal Form for each project, consideration is given to those items which require special construction methods. Emphasis is stressed as to the materials to be used, the method of handling equipment and materials, and the type of soils to be used. Special requirements are set up for the laying of rigid and non-rigid pavements, and all other items contingent to the project wherein clarification of the specification requirements is necessary as applied to the particular item.

TABLE SHOWING BY TYPE ADVERTISEMENTS FOR THE FISCAL YEARS 1947 AND 1948

Description	July 1, 1946 to June 30, 1947 Miles	July 1, 1947 to June 30, 1948 Miles	Total Miles
Concrete.....	6.54	18.85	25.39
Concrete (Dual Highway).....		2.52	2.52
Concrete (Additional Lane to Complete Dual Highway).....		9.22	9.22
Concrete Resurfacing (Dual Highway).....		20.47	20.47
Concrete Shoulders.....		12.07	12.07
Asphaltic Concrete Surface (Spec 'B').....	30.12	185.67	215.79
Bituminous Penetration Macadam.....	10.77	49.21	59.98
Bituminous Stabilized Base.....	9.74	5.31	15.05
Bituminous Road Mix on New Mac. Base.....	1.45	2.67	4.12
Bituminous Road Mix on Exist. Surface.....	7.84	7.00	14.84
Gravel Surface Course.....	28.53	8.08	36.61
Stabilized Soil Base.....	3.06	1.87	4.93
Soil Cement.....	1.84		1.84
Sand Bituminous Road Mix.....	25.76		25.76
Total.....	125.65	322.94	448.59

The contract documents must, therefore, be supplemented with Special Provisions governing each phase of work, which deviate from the requirements and covenants of the general specifications.

Materials to be used on the project must be tested and the requirements for the submission of samples must be included in the provisions of the contract.

Each project must be considered as to the method of handling of traffic during the construction period, and provisions provided to protect the travelling public.

The provisions of the contract include a "Schedule of Procedure," showing the contemplated working days required and the concurrent operations during the construction period.

In addition thereto, the Special Provisions must cover circumstances involving protection to the public, in the form of "Public Liability and Property Damage Liability Insurance."

In general, the Special Provisions governing all special requirements are included

in the project, and are a part of the "Contract Document." The requirements of the Special Provisions supersede those of the specifications whenever they deviate therefrom.

FINAL SURVEYS

For the determination of quantities for final payment to contractors, after the completion of projects, this Division makes field measurements of work done for checking the quantities shown in the sketch book, which is the resident engineer's field record of work done. These field measurements are obtained by an accurate

TABLES SHOWING WORK ACCOMPLISHED BY SURVEY PARTIES
FISCAL YEAR—JULY 1, 1946 TO JUNE 30, 1947

Description	Miles Dual Highways	Miles Primary Roads	Miles Second- ary Roads	Total Miles
Traverse Surveys.....	46.850	7.600	1.800	56.250
Preliminary Centerline Surveys.....	37.223	40.442	29.383	107.048
Right-of-Way Stakeouts.....	6.340	23.651	36.603	66.594
Construction Stakeouts.....	14.794	23.674	24.629	63.097
Final Surveys.....	28.469	0.477	10.460	39.406

Borrow Pits: 50 Borrow Pits, Totalling 769,720 Cubic Yards.

Property Surveys: 12 Properties, Totalling 1,401.0 Acres.

FISCAL YEAR—JULY 1, 1947 TO JUNE 30, 1948

Description	Miles Dual Highways	Miles Primary Roads	Miles Second- ary Roads	Total Miles
Traverse Surveys.....	84.20	22.75	12.35	119.30
Preliminary Centerline Surveys.....	68.77	53.60	8.47	130.84
Right-of-Way Stakeouts.....	23.20	17.00	0.80	41.00
Construction Stakeouts.....	20.50	13.15	15.30	48.95
Final Surveys.....	46.65	19.60	27.12	93.37

Borrow Pits: 45 Borrow Pits, Totalling 445,917 Cubic Yards.

Property Surveys: 13 Properties, Totalling 1,159.0 Acres.

It should be noted, in interpreting the Tables shown above, that actually much more additional work is done than is indicated therein.

For a modern highway—especially in the dual highway classification—extensive spur lines must be run on all streams and intersecting roads, which, in the aggregate, account for as much mileage as the main line and, in some cases, amount to twice as much.

Interchange areas, bridge locations, etc., must be very carefully contoured; and all such work, although not showing as mileage in the Tables above, amounts to a considerable portion of the survey forces' work—possibly, as much as 15%.

resurvey of the entire job, including final cross-sectioning. The sketch books are sent in by the district engineers, and checked to see that all measurements and computations are in accordance with the plans, specifications, and special provisions. If there are any discrepancies between the survey and inspector's notes, the district engineer and inspector are contacted; and in some cases, it is necessary to meet on the site to check the work. After all calculations are completed, the final quantities are sent to the contractor for his approval.

If they are in order, all forms are prepared and the final estimate is sent to the Accounting Department for computation of money due the contractor.

After the estimate has been passed by the Commission, this Division follows through in checking with the Public Roads Administration representative, for the collection of Federal-aid funds, on contracts where they are used.

MISCELLANEOUS

Considerable miscellaneous work is done by this Division.

A weekly detour bulletin is issued by this Division, to aid uninterrupted traffic flow around major construction projects.

Public utility companies are kept informed of the proposed work so that their plans for expansion, alteration, and adjustment can be coordinated with State plans.

Whenever surveyors are observed in any locality, property owners, naturally, become interested and contact the Commission offices for information as to how they will be affected. This Division handles most of these contacts.

FEDERAL CONTACTS

One member of this Division during the past two year period has handled the routine contacts, which are necessary to be made with the Public Roads Administration when projects are to be financed partly by Federal funds. The federal contact man also handled routine contacts with railroads, municipalities, and public utilities.

TRANSITION TO EXPANDED HIGHWAY PROGRAM

During the war period the efforts of this Division were confined to military access highways.

The primary and secondary roads of the State were maintained to the extent of the materials and labor available.

At the close of the war, maintenance, in many instances, no longer was sufficient, and rehabilitation of many highways was urgent.

During the post-war period, overall schedules were assembled for the complete rehabilitation of the State Highway System to desired standards, and for the construction of modern expressways and stage development of dual highways.

In January, 1948, the planned expansion of the highway system started, and is now in full progress.

Although the personnel of this Division has been expanded in both office and field, the expansion is not proportional to the increase in work accomplished over that done in previous years.

The schedule of procedure set up for the fulfillment of the proposed program is being satisfactorily accomplished.

The personnel of this Division are to be commended on the fine spirit and diligence with which they are working, and it is felt that each member is definitely doing an important part of the work necessary in getting our huge program rolling smoothly.

DIVISION OF BRIDGE DESIGN

ALBERT L. GRUBB

Engineer of Bridge Design

L. B. KRAVETZ

*Bridge Engineer
Specifications & Contracts*

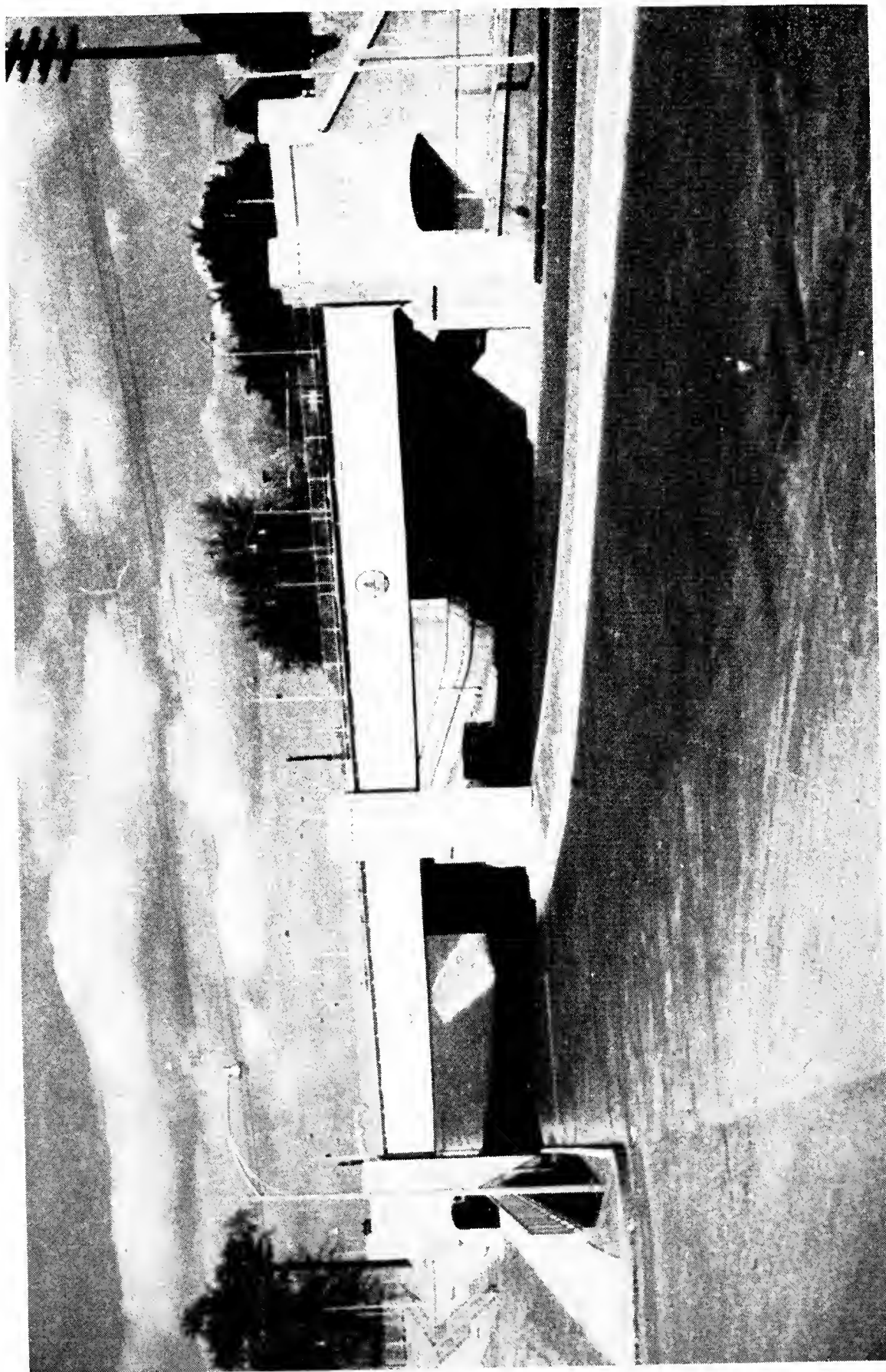
H. H. BOWERS

*Bridge Engineer
Design & Drafting*

R. B. BURGESS

*Bridge Engineer
Hydraulics & Construction*

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BRIDGE CARRYING BALTIMORE AND OHIO RAILROAD TRACKS OVER GEORGIA AVENUE (U.S. ROUTE 29) SILVER SPRING, MONTGOMERY COUNTY. COMPLETED IN 1948

DIVISION OF BRIDGE DESIGN

Mr. Walter C. Hopkins was Bridge Engineer until October 14, 1947 at which time he assumed the duties of Deputy Chief Engineer and Mr. Albert L. Grubb who was assistant Bridge Engineer became Engineer of Bridge Design.

The first fiscal period began with instructions from the Commission to proceed with a greatly accelerated program of design and increased working hours. The work day was increased from the normal period of 9 a.m. to 5 p.m. to hours of 8 a.m. to 7 p.m. on three days per week and 8 a.m. to 5 p.m. on two days, with most of the personnel also being required to work on Saturdays. This high pressure application of effort on bridge engineering and planning resulted in the completing of contract drawings and specifications on several very essential projects.

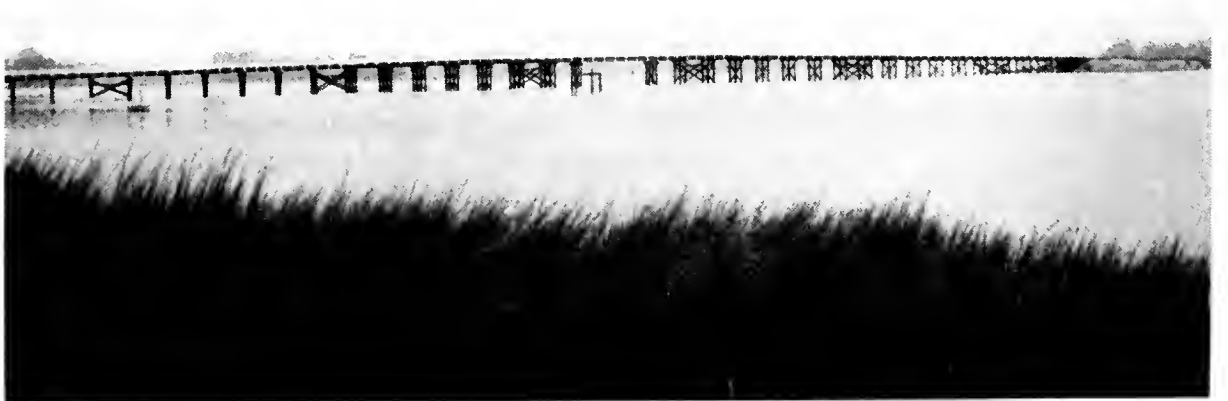
To discuss briefly the functions of this Division before outlining the projects on which work was accomplished, it may be stated that modern highway bridges are, and should always be, considered a part of the highway and every effort is made to continue the geometrics of the highway across the structure. The types of bridges most commonly used are beam spans of concrete or steel or combinations thereof; concrete rigid frames including multiple cell box culverts; steel trusses; steel plate girders and concrete or steel arches where aesthetic conditions require them and foundations permit. The above types are more or less acceptable standards for bridges on State highway systems. The width of the structures are selected after the pavement of the approach highway has been determined. For short span bridges, the structure is built to the full width of grading of the adjacent highway. For longer bridges, the width is made 6' greater than the pavement on the highway approaches to the structure. This affords a 3' margin on each side from the edge of the pavement to the bridge curbing, outside of which curbing is always provided a safety curb or refuge walkway for the occasional pedestrian, who is present on most Maryland highways. On bridges in developed areas, towns or cities, the safety curb, which is normally 18" in width, is increased to full sidewalk widths of whatever dimension is needed in proportion to the density of population and number of pedestrians using the facility. The live load capacity, or design live load for bridges on the State highway system, is H-20, conforming to the Specifications of the American Association of State Highway Officials.

It was gratifying, that during the second fiscal period, the Chief Engineer prepared the new "Desirable Standards for Roads of the State Highway System of Maryland". These data were prepared in tabular form and indicate desirable or minimum geometrics and dimensions for highways and structures according to the traffic on the project under consideration. This is an extremely valuable guide

in the hands of the designer as it informs him of the basic dimensions he must provide for.



BRIDGE OVER TUCKAHOE CREEK ON ROAD FROM EASTON TO DENTON, CAROLINE-TALBOT COUNTY LINE. UNDER CONSTRUCTION JUNE 30, 1948

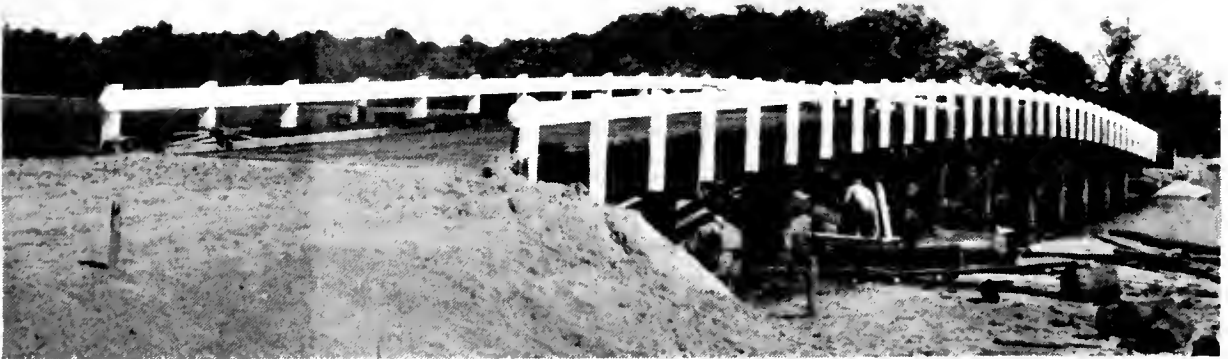


BRIDGE OVER WYE NARROWS, BETWEEN WYE ISLAND AND MAINLAND, QUEEN ANNE'S COUNTY. COMPLETED MAY 20, 1948

In the design of county road projects, the aforementioned policies and Desirable Standards are tempered with good judgment in order to arrive at a structure within the budget of the county and which will be consistent with the traffic expected



OLD ISLAND CREEK BRIDGE



NEW ISLAND CREEK BRIDGE

ISLAND CREEK BRIDGE—QUEEN ANNE'S COUNTY—SHOWING OLD STRUCTURE
(above) AND NEW STRUCTURE (below)

to use the facility. Timber structures are widely used in bridges on purely county or local highways. The widths of such bridges are reduced to the minimum due to the small volume of traffic usually present on county roads. When possible,

every effort is made to provide bridges of good alignment. The design live loading is usually reduced to an H-10 or H-15 capacity.

With these policies, or generally accepted standards at hand, the actual design of each individual structure is developed from a careful consideration of the barrier necessitating the bridge. One of the first and most important determinations is the foundation. In connection with this phase of work it is necessary to obtain factual information concerning the sub-strata to whatever depth is necessary in order that the designer may consider the most desirable and economical structure for the crossing. The underground exploration carried on by the Commission is under the direct supervision of an especially trained engineer familiar with the general geology of the State. The exploration is accomplished by modern drilling equipment capable of penetrating the materials found in the sub-strata. Samples of the materials so drilled are obtained in their original state and a very careful log of the varying formations is recorded. Coincident with the revelation of the character of the sub-strata, and at small unit intervals, a load of known size and driven by a known weight, falling a known height, is driven into the material and there is recorded the number of blows to drive the load a unit distance. This information is then considered by the designer and correlated on the basis of engineering experience to anticipate the action and capacity of a pile if one is driven into such material, or to otherwise classify the material and its load supporting capacity.

The designer now must determine the actual size or length of the structure for the required crossing. If a stream or water course is involved, a careful examination is made of the water shed, as well as a study of the rainfall, absorption, runoff, and other hydraulic data. Characteristics of nearby similar water courses are also used. The history of the behavior of the stream is collected, and from all such data obtainable, the length or size of the required bridge to span the stream is decided. When the structure is to cross a railroad or highway the lengths and clearances are generally made in conformity with the requirements of the highway or railroad. Special applications are required when navigable streams are spanned. These types of crossings generally require a draw span, of which many have been built by the Commission and are now operating satisfactorily.

The Division of Bridge Design is required to devote a great deal of time to the preparation of studies, estimates, plans and schemes for bridges well in advance of their inclusion in any program and in most cases for which funds have not been allocated. These studies are given the same consideration as if the bridge were to be built immediately so that the recommendation and cost will be representative of requirements, insofar as it can be done with the time and personnel available. It is also necessary to be continually investigating, rating, inspecting and developing schemes for maintaining, repairing and strengthening structures on the State Roads system. These investigations and recommendations of existing structures are extended to include such county road structures as are maintained by the Commission and also upon request from County Commissioners are often expanded

to cover county owned structures in counties with their own road and maintenance organizations.

This phase of the work included (for the 2 fiscal years) more than fifty (50) estimates and schemes for new and improved bridges and crossings, as well as designs and schemes for strengthening and repairing existing structures.

Among the estimates and schemes noted above, was a complete study and report for a crossing of the Patuxent River at Benedict in Charles County. This study included making of surveys, borings, designs and estimates of several types of possible bridges. This project is estimated to cost around \$2,500,000.

The tabulations shown on pages 66, 67 and 68 indicate projects on which designs, drawings and specifications have been completed during the fiscal years covered by this report.

The total construction cost of the structures listed in these tables was approximately \$6,500,000.00. All drawings, plans, specifications and contract documents for said structures (excepting the projects mentioned in Note 1*) were entirely prepared by the Division of Bridge Design. The total salaries paid to the engineers of the Division of Bridge Design for the two fiscal years was about \$160,000.00, which would indicate an engineering cost of 2.5 per cent of the total construction cost mentioned above. This percentage should be reduced since at least 25 per cent of the work of this Division involves the making of studies, reports, estimates and investigations not culminating in final designs for completed projects.

It should also be noted that the engineering cost included the checking of all shop, detail and working drawings, supervising inspectors on bridge construction assigned to the Division, as well as the actual designing of the structures and preparation of contract drawings and documents.

The design of many of the structures in the foregoing tables involved solving complex problems, particularly at Stony Creek Bridge and Silver Spring Underpass. At the Stony Creek Bridge, which was entirely designed by this Division, including the draw span, some difficulties were also encountered during construction. In order to maintain navigation, it was necessary to erect the bascule leaves of the draw span in a vertical or open position. This required the setting of the bearings and machinery shafts entirely by surveying instruments, as the span could not be lowered until the concrete counterweights were poured, which was several months after the erection of the steel work and the placement of the machinery. This structure will be opened to traffic in the winter of 1948 and will certainly be a welcome addition to the State Roads System.

At Silver Spring, the new underpass to carry the Baltimore and Ohio Railroad tracks over Georgia Avenue had been unavoidably delayed due to the war and the scarcity of steel plate. Prior to the war it had been the intention for the Baltimore and Ohio Railroad Engineering Department to prepare the design and drawings for this structure. At the conclusion of the hostilities, however, railroad engineering forces were unable, due to the pressure of railroad business, to complete these

JULY 1ST, 1946 TO JUNE 30TH, 1947

County	Crossing	Location	Type	Remarks
Allegheny	Braddock Run	U.S. Route 40 East of Frostburg	Large multiple cell concrete culverts	This project included 5 separate structures.
Allegheny	Braddock Run	U.S. Route 40—Clarks Distillery	Concrete rigid frame bridge	
Allegheny	Potomac River	South Cumberland	Repairs and strengthening	This project greatly improved the existing Wiley's Ford Bridge.
Anne Arundel	Stony Creek	Rivera Beach (Md. Route 173)	Steel I-beam	This large structure contains a double leaf bascule draw span.
Anne Arundel	Red Lion Creek	Colony Cove	Timber bridge	
Baltimore	Western Md. Railway	Butler Road at Glyn-don (Md. Route 128)	Continuous concrete slab	See Note 1* below.
Baltimore	Sulphur Spring Road	Wilkins Avenue Ex-tended	Steel girder	Highway grade separa-tion.
Baltimore	Patapsco River	U.S. Route 1 at Elkridge	Lighting project	
Baltimore	Unnamed streams	Wilkins Avenue Ex-tended	Box Culvert	
Baltimore	Unnamed streams	Sulphur Spring Road Relocation	Box Culverts & storm water sewers	Several structures re-quired for road project.
Cecil	Little Elk Creek	Luttons Corner—Marley Mill	Steel beam bridge	County road project. Original bridge washed out.
Cecil	Unnamed Stream	Childs-Pleasant Hill	Concrete Box Cul-verts	
Cecil	Several streams	Elkton—Chesapeake City U.S. Route 213	Large concrete box culverts	Several structures in this road project.
Cecil	Love Run	U.S. Route 1 to Colora	Concrete box Culvert	
Caroline	Tuckahoe Creek	Easton-Denton Md. Route 328	Steel beam	This bridge is more than 900 ft. long and connects Easton and Denton with a more direct road.
Caroline	Mason's Branch	Crouse's Mill	Timber Bridge	County road project.
Caroline	Choptank River	Md. Route 404 at Denton	Repair existing bridge	
Caroline	Spring Branch	Greensboro-Burrs-ville	Large concrete box culvert	
Carroll	Meadow Branch	Baust Church	Steel beam	Secondary road project.
Carroll	Morgan Run	On the Washington Road	Steel beam	Secondary road project.
Carroll	Patapsco River North Branch	Sykesville Md. Route 32	Existing bridge re-pair	Sidewalk added.
Dorchester	Transquaking River	Bestpitch	Timber bridge	County road project. Replaced ferry.
Dorchester	Chicone Creek	Vienna-Brookview	Timber bridge	County road project.
Frederick	Stream	U.S. Route 40 be-tween Frederick and Braddock Heights	Large concrete box culvert	
Garrett	Oakland-Deep Creek	U.S. Route 219 Oak-land Deep Creek Lake	Large concrete box culvert	Also timber bridge on private entrance.
Howard	Frederick Road	On Edmondson Ave. connection over Frederick Rd.	Steel beam bridge and concrete flume.	
Howard	Patapsco River	U.S. Route 40 at Ellicott City	Electrical Work	Project included lighting of the bridge.
Howard	Tiber Run	Rock Hill College Road, Ellicott City	Concrete girder	
Montgomery	B & O RR	Silver Spring—Georgia Avenue U.S. Route 29	Steel plate girder	See Note 1*
Prince George's	Stream	Md. Route 214 near Davidsonville (Central Ave.)	Large concrete box culvert	
Queen Anne's	Wye Narrows	At Wye Island	Timber bridge	
Queen Anne's	Island Creek	Churchhill - Wilmer's Neck	Timber bridge	
St. Mary's	Stream	Md. Route 249 be-tween Calloway and Valley Lee	Concrete box culvert	To replace former structure which was destroyed by flood.

JULY 1ST, 1946 TO JUNE 30TH, 1947—Continued

County	Crossing	Location	Type	Remarks
St. Mary's		Blakistone Island	Shore Protection	Anti-erosion protection to preserve cross commemorating landing of Ark & Dove in 1634.
Talbot Wicomico	Miles Creek Tonytank Creek	Bruceville-Manadier Shad Point	Timber bridge Timber bridge & timber dam	County road project. County road project.
Wicomico	Wicomico River	Main Street Salisbury	Fender Extension	Fenders extended to prevent accumulation of debris.
Wicomico		Salisbury	Brick Office Building	This building for District Engineer's headquarters.
Worcester	Sinepuxent Bay	U.S. Route 213 at Ocean City	Electrical Work	Lighting project for new bridge.
Worcester	Sinepuxent Bay	Ocean City	Remove old bridge	This project was for the complete removal of the former bridge.

drawings and it was necessary for the engineers of this Division to draft the additional plans required, as well as prepare all contract documents and specifications. After bids were received the critical lumber situation prevented the Contractor from obtaining the timbers required to build a temporary railroad detour trestle. A scheme was then worked out in conjunction with the low bidder, engineers of the Bridge Division and the Railroad, as well as representatives of the Public Roads Administration, whereby an earth embankment was substituted upon which to lay the temporary railroad tracks instead of the timber trestle originally contemplated. This involved changes in the right of way plans, surveys, and required the preparation of additional drawings, extra work authorizations and other contract papers. After this obstacle was overcome and construction under way, it was unfortunate that other difficulties developed, mostly due to natural causes, such as the very jagged nature of the underlying rock strata in this area, requiring revisions in footing design; scarcities of certain metallic materials and the severe weather conditions in the winter of 1947-48. Due to the close cooperation between the Commission's several Divisions and the engineers of the Railroad, these unexpected difficulties were overcome as they developed without accident or appreciable increase in cost.

Another structure, the design of which merits special attention, is the proposed new bridge over the Potomac River and Western Maryland Railway between McCool, Maryland, and Keyser, West Virginia for the important North-South Route, U. S. 220. This is an interstate bridge and is to be financed jointly by the States of Maryland and West Virginia, together with contributions from the Public Roads Administration in the form of Federal Aid. The design of this bridge culminated several years of negotiation between the Roads Commissions of the two states. The plans as now developed, provide a high level bridge over the Potomac River, the Western Maryland Railway in McCool and Baltimore and Ohio Railroad in Keyser, as well as over numerous streets on either side of

JULY 1ST 1947 TO JUNE 30, 1948

County	Crossing	Location	Type	Remarks
Allegany	Potomac River & Western Md. Railway	At McCool—U.S. Route 220	Steel girder and I-beam	This is an interstate structure leading to Keyser, W. Virginia.
Allegany		Mt. Savage—Md. Route 36	Sidewalk and retaining wall	This project improved road width and added a sidewalk.
Baltimore	Penna. RR	Francis Avenue Halethorpe	Steel I-beam & approaches	Eliminates hazardous grade crossing.
Baltimore	Penna. RR	Sulphur Spring Rd.—Arbutus	Steel girder	See Note 1* below. Eliminates hazardous grade crossing.
Baltimore	Herbert Run	Wilkins Avenue Extended	Steel girder	
Cecil	Little Elk Creek	Landing Lane—Oldfield Point	Timber bridge	County road project.
Charles	Thorn Gut and other streams	Riverside—Chicamuxen—Md. Route 563	Steelbeams & culverts	Several structures.
Caroline	Sullivan's Branch	Federalburg—Smithville	Timber bridge	County road project.
Caroline	Hunting Creek	At Choptank	Timber bridge	County road project.
Carroll	Roop Branch	Md. Route 84 near Md. Route 75	Large concrete box culvert	To replace washed out structure.
Garrett	B & O RR	Md. Route 39 at Oakland	Existing bridge repairs	Also addition of sidewalk.
Garrett	B & O RR	Md. Route 38 at Altamont	Existing bridge repairs	
Garrett	Streams	Loch Lynn—Gorman	Large concrete box culverts	Several structures
Howard	Patuxent River	U.S. Route 1 at Laurel	Steel beam bridge for proposed by-pass	Project also includes bridge over the Race Track Road
Howard	Edmondson Avenue Extended East Bound Lane	On Edmondson Ave. Columbia Pike Connection	Steel beam bridge	Substructure is faced with stone
Howard	Bonnie Branch	Md. Route 104 at Ilchester	Steel beam bridge	
Kent	Radcliff Creek	Md. Route 289, Chestertown—Pomona	Steel beam bridge	Project includes placing and accelerating embankments in deep mud.
Kent	Fannel Branch	Md. Route 20 Rock Hall	Large concrete box culvert	
Kent	Streams	Galena—Sassafras	Several large concrete box culverts	Secondary road project
Montgomery	Sandy & Watts Branches	River Road—Md. Route 190	Steel multiplate arches	See Note 1*
Montgomery	Willett's Creek	River Road—Md. Route 190 near D. C. Line	Repair existing bridge	Some widening was also obtained.
Prince George's	Western Branch	Relocation of U.S. Route 301 known as Marlboro Bypass	Steel beam bridge	
Prince George's	Several streams	Relocation of U.S. Route 301, known as Marlboro Bypass	Several large concrete box culverts	
Prince George's	Stream	Woodyard Road	Steel multiplate arch	County road project, see Note 1*
Prince George's	Stream	U.S. Route 1 at Riverdale	Large concrete box culvert	This project is at Wells Parkway.
Somerset	Unnamed streams	U.S. Route 13 Pocomoke—Westover	Box culverts	
Talbot	Skipton Creek and streams	Relocation of U.S. Route 213 between Easton & Wye Mills	Steel beam bridges and box culverts	Several structures required.
Talbot	Kings Creek	Matthews—Tred Avon	Timber bridge	County road project.
Wicomico	Pocomoke River	Sheppard's Crossing	Timber bridge	County road project.

NOTE 1*—Projects indicated thus were generally designed by other organizations or Consulting Engineers. This Division, however, reviewed the designs, prepared specifications, contract documents, as well as drafted additional plans required. In the case of the major structures, this Division also supervised the construction.

the River. It will eliminate dangerous railroad grade crossings and remove through traffic from local streets. By arrangements concluded between the two states, this Division designed and made all drawings for the main river crossing, as well as for spans over the Western Maryland Railway. For the design of the spans in West Virginia, that State engaged the services of a consulting engineering firm. It is contemplated that the West Virginia authorities will take bids on the entire project, including the Maryland and West Virginia portions and supervise construction throughout. This structure is designed to be above any recorded flood water and certainly is a decided improvement in the highway system of Western Maryland.

Other designs worthy of comment which were concluded and advertised for bids included the grade eliminations in the Arbutus-Halethorpe vicinity. These improvements were also unavoidably delayed by the recent war, but promptly upon its conclusion, preparation of plans and negotiations with the Railroad were undertaken with the result that bids were received before the end of this fiscal period. These projects have been designed to eliminate all possible hazard from the railroad. The bridge widths provide for reasonable increase in traffic. Special problems incident to these structures were created by the densely developed residential area, the non-existence of any adequate storm water drainage system and the frequency of train operations on the railroad tracks through this vicinity. The designs adopted destroy a minimum of private property while at the same time affording adequate sight line and very good alignment. The frequent railroad train operation involved such costly maintenance of railroad traffic facilities that it was necessary to reject all bids on the Arbutus structure when received the first time in March 1948. The Railroad engineers then developed a more economical maintenance of railroad traffic scheme with the result that the project was re-advertised and an acceptable bid received on July 13, 1948.

Almost all of the projects were placed under contract during the fiscal periods and many have been completed and opened to traffic. The canvassing of bids of a few had not been accomplished by the close of work on June 30, 1948 due to right of way difficulties and other delaying circumstances. It is expected, however, that these projects will be advertised during the early stages of the next period.

It should be noted at this point that the Division of Bridge Design assumed the responsibility for construction of the more complex bridge projects about the time of the beginning of this period. This additional responsibility was applied to the new Spa Creek Bridge at Annapolis, the Stony Creek Bridge, and Silver Spring Underpass, previously discussed herein, and many other projects. At one time the Division was supervising the active construction of fifteen bridge projects considered to be of a complex nature.

During the second year covered by this report, the most extensive road program ever contemplated by the State was conceived. Numerous organizational changes were concluded and the offices of the Division of Bridge Design, which were entirely inadequate in floor space for a number of years, were moved to Room 311

of the Tower Building in downtown Baltimore. In the beginning weeks of 1948, preliminary programs for the huge extension of the State Roads system had taken form and the individual problems presented to the several Divisions became apparent. The first superhighways to be designed were decided by the Commission and administrative engineering executives. These embraced the Washington-Baltimore Expressway, a new Defense Highway to connect Annapolis and Washington, the "dualing" of the Frederick Road, westward from Ellicott City, the relocation of many primary State highways, several new connecting roads between main highways, as well as a new expressway to replace the present inadequate York Road. Due to lack of personnel in this Division and the need for early completion of plans for the Washington-Baltimore superhighway, it was necessary to engage Consulting Engineers for the preparation of structural designs and drawings for the bridges required. The J. E. Greiner Company furnished their services and certainly deserve commendation for their rapid preparation of the designs and drawings. All designs and drawings were reviewed and commented upon by engineers of this Division. Also explorations of subsurface strata were made by this Division's forces and equipment and data furnished to the aforementioned Consulting Engineers.

By the conclusion of the period covered by this report most of the preliminary studies incident to structural problems on the above-mentioned new highways were concluded and the preparation of detailed designs and sub-surface exploration scheduled to begin at the opening of the new fiscal year. Special problems encountered were at the South River crossing on the new Defense Highway, as well as the new bridge to be built over the Severn River upstream from Annapolis. At the South River site, mud varying in depth from 20' to 40' of an extremely fluid nature and a high grade level promised to inject difficult problems. At the Severn River location, a wide expanse of deep water and underlying strata of soft mud also interpose a difficult problem in bridge engineering. The problems relating to these specific cases and others encountered as the program gathers momentum, as well as the designs selected, will be discussed in the next report.

TRAFFIC DIVISION

GEORGE N. LEWIS, JR.

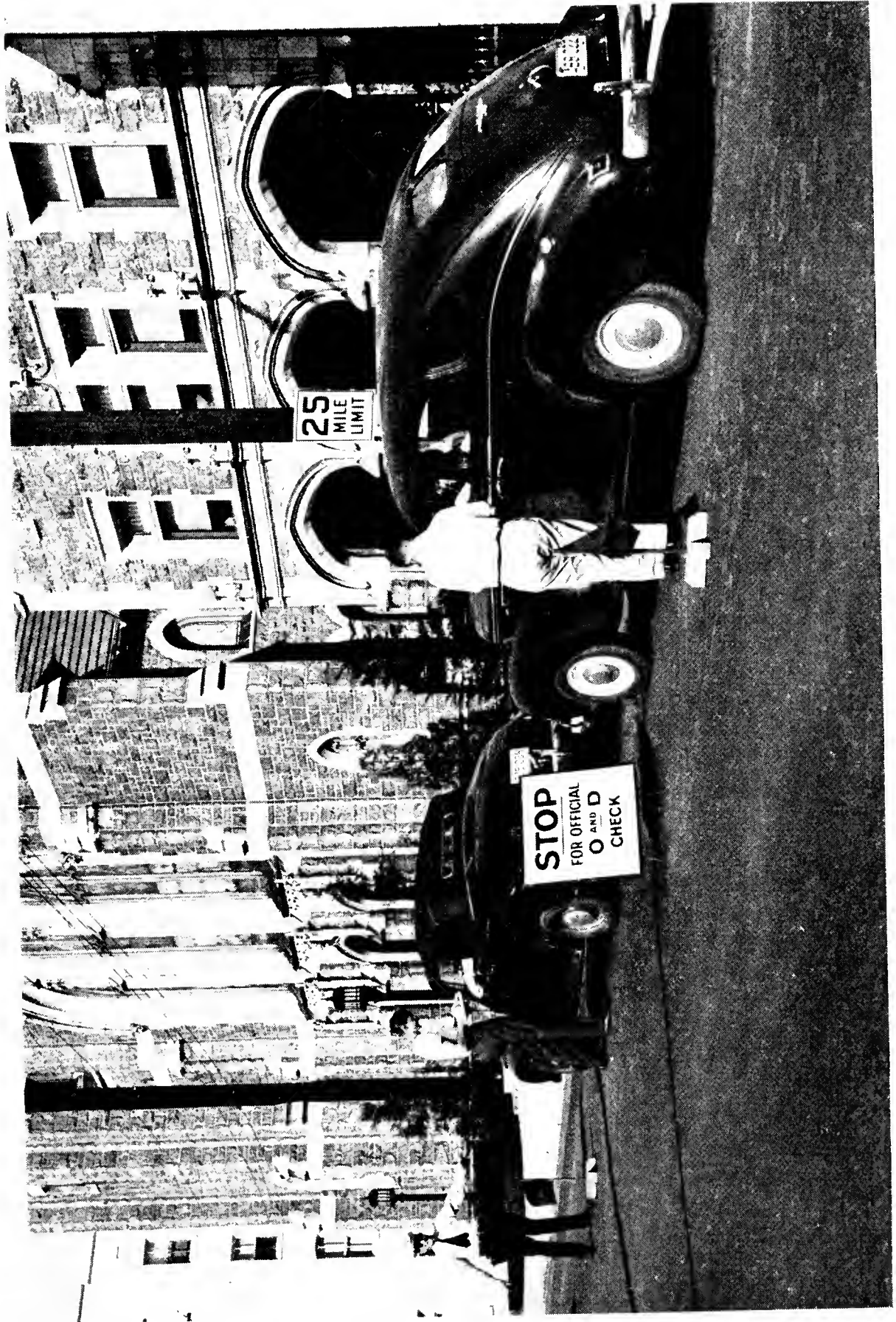
Director

JOHN L. MINTIENS

Highway Traffic Control

GEORGE W. CASSELL

Supervisor of Inventory and Mapping



HAGERSTOWN TRANSPORTATION STUDY
INTERVIEWING NORTH BOUND TRAFFIC ON POTOMAC STREET NORTH OF CHURCH STREET. AUGUST 1, 1947

TRAFFIC DIVISION

The Traffic Division is the fact-finding, record-keeping and analytical division of the State Roads Commission. Its duty is to keep current all important phases of planning information for use of the Commission, these data to be used as a guide in the modernization of the highway system and for the orderly and effective schedule of procedure in the improvement and extension of the State highway system. The planning is based on the data obtained by exhaustive studies made of the physical characteristics of all public highways, complete transportation studies of the larger metropolitan areas, short traffic surveys, road use studies, road life studies and fiscal studies.

The Division is also charged with the responsibility of examining construction plans of new highways for traffic operation and safety features, also the preparation of the State General Highway Map, County General Highway Maps, Traffic Flow Maps, annual Tourist map, erection and maintenance of traffic control signals, design of channelization for highway intersections and entrances to State highways from places of business, study of high accident rate locations, and the enforcement of commercial vehicle weight and size laws. It cooperates with the Maintenance Division in design and placement of traffic control devices and signs.

The work of the Traffic Division is carried on under four sections—Inventory, Mapping, Traffic, and Fiscal.

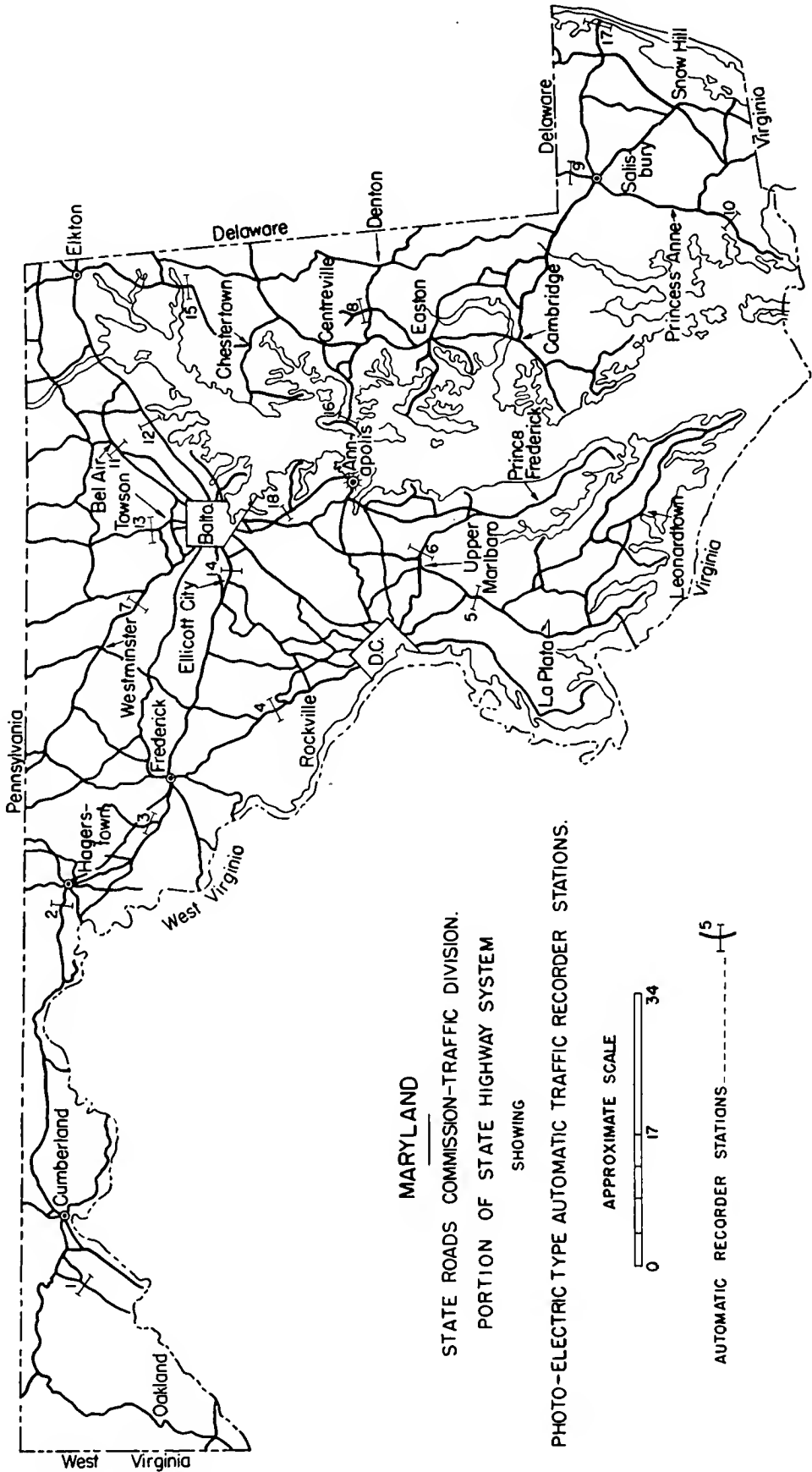
Mr. Wm. F. Childs, Jr., was Director of the Division until Oct. 1, 1947 at which time he was appointed Chief Engineer of the Commission. Mr. Geo. N. Lewis, Jr., who was principal assistant, immediately assumed the duties as Director of the Division. Mr. John L. Mintiens who was assigned to the Division of Road Design, specializing in traffic control work, was transferred to the Division at the beginning of the fiscal year of 1947.

On February 1, 1948 the Division moved from the headquarters office at 108 E. Lexington Street to the Tower Building. This move was necessitated by the enlargement of the Engineering Department in connection with the expanded program of highway construction undertaken by the Commission in the spring of 1947.

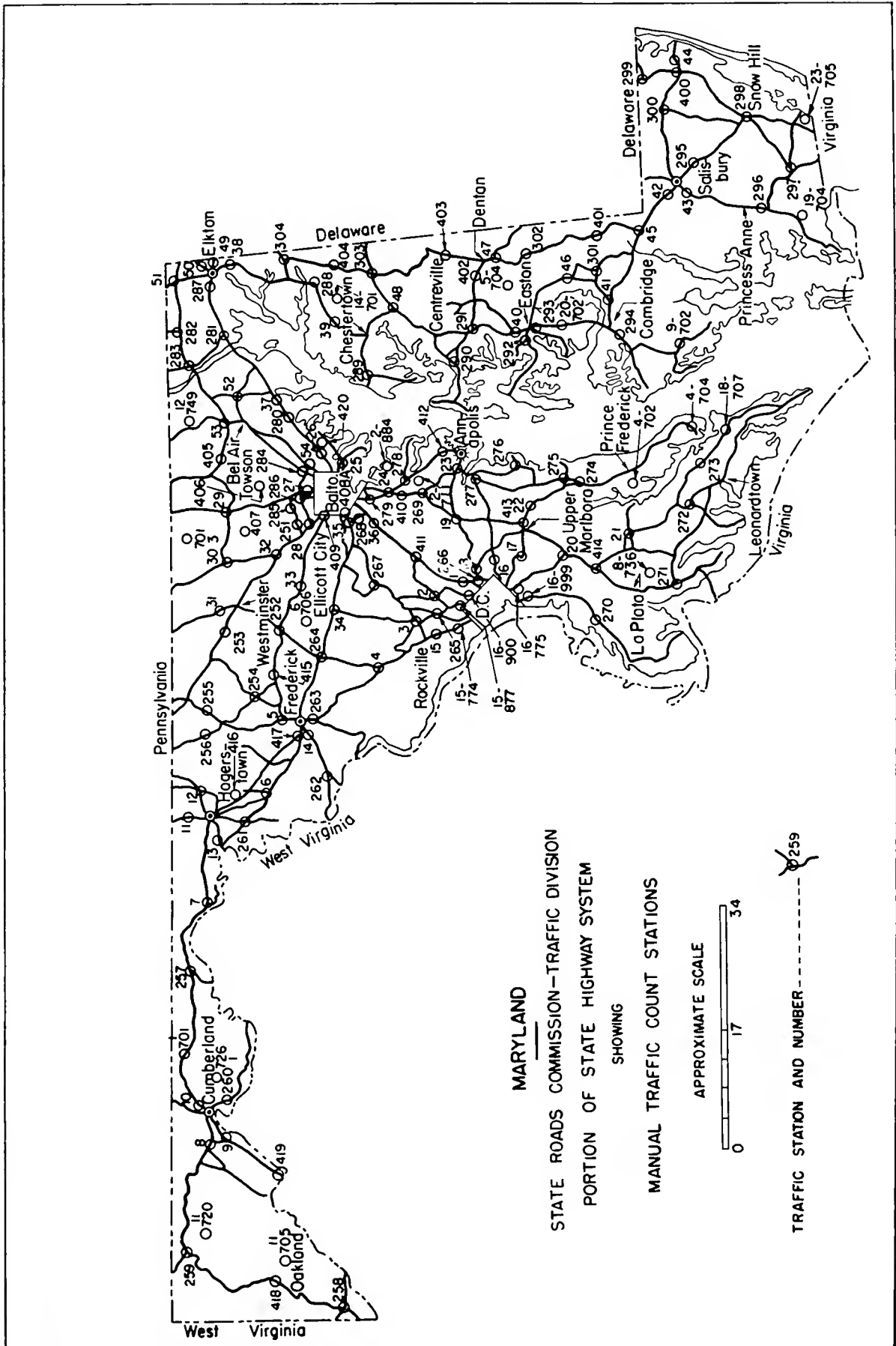
Following is a resumé of the activities of the several sections of the Division.

INVENTORY

Plans for a continual field inventory of all public roads by counties was placed in operation in October 1946. The inventory is scheduled to effect a complete reinventory of the public road system within the entire State every five years.



11/10/48



11/10/48

This is to be accomplished by completion of from four to six counties each year depending upon the mileage within the county.

As of June 30, 1948 a road inventory of Anne Arundel, Baltimore, Howard and Prince Georges Counties had been completed. The inventory of these counties included a total of 4,092.62 miles. Tabulations by counties, highway system, surface types and surface widths, utilizing the completed field inventory is now being prepared.

In accordance with the terms of Chapter 560, of the Acts of 1947, a field inventory of all streets and alleys in all incorporated towns and special taxing areas, except Baltimore City, involving 1,413 miles, was made and tabulations were compiled showing the total mileage of hard surfaced streets in each town. Distribution of the gasoline tax and motor vehicle revenue accruing to the various towns was made on the basis of these tabulations. The Act also provides for the submission of annual revision reports to this Division by the various municipalities and for the compilation of revised tabulation for each ensuing fiscal year.

In Table 1 is given the mileage of roads by types for the County, the Municipal, and the State highway systems for each county, each engineering district, and for the State as a whole. These mileage data were compiled from the latest records and apply as of January 1, 1948.

Other accomplishments of the Inventory section were:

Preparation of the annual Local Mileage and State Mileage forms for the Public Roads Administration.

Extension of the Baltimore and Hyattsville-Takoma Park urban area boundaries with substantiating data, maps, and descriptive narrative.

Review and recommendations for acceptance into the State highway system of rural routes constructed, or to be constructed with Federal-aid secondary funds.

Prepared listings by order of priority according to hazard rating of all highway-railroad crossings at grade on the approved Federal-aid and Federal-aid secondary systems.

Reviewed and made recommendations for better protection on numerous highway-railroad crossings at grade for purposes of securing Federal funds.

Made sixteen-hour manual traffic counts on all street-railroad crossings at grade within incorporated towns, except Baltimore City.

Applied factual highway data secured by field inventory to formulate priority for the selection of routes for the widening and resurfacing program for 1947, 1948, and 1949.

Listed highway mileage by types and system for the approved Federal-aid Secondary system and prepared a log of the approved Federal-aid system.

Reviewed each county's yearly road improvement recommendations and, using factual data, developed an order of priority for each year.

The County and State annual road improvements were kept current through the cooperation given by the District Engineers and the County Roads Engineers.

MAPPING

In 1946 a complete new tourist map was published. A new edition, incorporating new features, such as main highways colored red, listing of historical and recreational places, etc., was published in June 1948.

County general highway maps of thirteen counties were corrected and reproduced by lithographic process on a scale of one-inch-equals-two-miles. These general highway maps have the plane coordinate system (Maryland State Grid) shown by red lines every 10,000 feet.

A modern method of mapping designed to produce better maps at a lower cost was installed and drafting of Baltimore and Garrett Counties is well under way. Future county maps will be reproduced in full colors using the Lambert Grid in place of a polyconic projection. The change in projection is in line with the Division's policy of promoting the development and use of plane coordinates.

A base map of the State highway system to a scale of one-inch-equals-four-miles was drawn and prints were used by all divisions of the Commission for programming purposes.

Other accomplishments of the mapping section were as follows:

Review of current edition maps of Maryland published by the Army Map Service; U.S. Geological Survey; Maryland Department of Geology, Mines, and Water Resources; Rand McNally and Company; H. M. Gousha Company; Geographia Map Company; and the American Automobile Association.

A State map was prepared showing the approved Federal-aid system.

County maps showing the approved Federal-aid secondary system were prepared and copies sent to each county highway department.

A set of maps showing, by symbol, the 100 million dollar program and the existing traffic volume along each route was prepared and distributed to the District Engineers.

A traffic flow map showing the 1947 average daily traffic on each State highway was prepared with copies to each District Engineer.

Strip maps of main highway routes in Maryland were prepared for the State Police to be used for accident spotting.

As evidence of the growing popular demand for our maps a total of 603 State and 3,683 county maps were distributed between July 1, 1946 and June 30, 1948. The sum of \$1,726.54 was collected from the sale of maps by this Division.

The number of maps reported as distributed during this two-year period is exclusive of those used by the several departments and districts of the State Roads Commission. In addition, a total of 82,000 small-scale Tourist Maps have been distributed without charge.

TRAFFIC

During both fiscal years, the schedule of manual classified volume counts was carried on at 108 key stations located strategically over the State as indicated on the accompanying map. For this phase of the traffic engineering work the State

TAB

MILEAGE OF ROADS ON THE COUNTY, MUNICIPAL, AND STATE HIGHWAY

Mileage by

County	A & B			C			D			E			F & G		
	State	County	Mun.	State	County	Mun.	State	County	Mun.	State	County	Mun.	State	County	Mun.
Dorchester.....		65.40	1.86		82.30	1.33		8.10	4.08		291.73	5.54	18.08	34.18	22.43
Somerset.....		14.05	0.78		191.59	0.87		3.80	1.52		53.88	2.14	7.36	24.73	9.54
Wicomico.....		34.06	4.63		285.63	11.57		20.99	1.27		39.72	4.42	13.34	124.69	14.75
Worcester.....		50.22	0.69		299.28	4.25		5.60	1.25		24.09	2.31	25.48	65.17	14.09
District No. 1.....		163.73	7.96		858.80	18.02		38.49	8.12		409.42	14.41	64.26	248.77	60.81
Caroline.....		3.20	0.86		373.01	0.60		30.05	3.97	0.40	24.11	12.93	14.59	29.87	9.91
Cecil.....		23.50	0.51		208.58	0.36		38.34			125.52	8.05	10.49	39.55	14.29
Kent.....		9.11	0.36		48.73	0.83		61.39			94.32	6.81	14.56	16.40	2.27
Queen Anne's.....		0.25	0.39		25.84			344.47			2.54	4.00	36.90	17.54	2.37
Talbot.....		4.05	0.42		18.15	0.13		109.29	3.54	4.60	91.60	5.01	3.80	45.45	11.70
District No. 2.....		40.11	2.54		674.31	1.92		583.54	7.51	5.00	338.09	36.80	80.34	148.81	40.54
Anne Arundel.....		39.79	0.40		58.28			6.37		0.19	238.57	4.13	48.16	360.49	1.80
Carroll.....		230.09	7.04		238.17	1.41		2.00	0.36		13.42	9.04	23.86	128.65	16.10
Howard.....		11.76			59.36			0.30			147.55		8.29	57.03	
Montgomery.....		17.28	0.04		268.60	0.33		15.25			129.61	13.45	6.21	215.14	27.64
District No. 3.....		298.92	7.48		624.41	1.74		23.92	0.36	0.19	529.15	26.62	86.52	761.31	45.54
Baltimore.....		50.79			112.83			118.51			129.08		1.37	655.93	
Harford.....		107.84	0.59		239.80	2.39		4.03	0.25		85.80	20.72	7.94	74.81	18.51
District No. 4.....		158.63	0.59		352.63	2.39		122.54	0.25		214.88	20.72	9.31	730.74	18.51
Calvert.....		51.38			38.91			1.10		0.02	55.56	10.24	93.66	33.84	2.47
Charles.....		26.29			16.55					8.65	192.84	3.23	212.20	28.24	3.89
Prince George's.....		30.04	3.13		105.56	5.24		1.60	3.89		162.30	75.08	84.06	110.11	93.45
St. Mary's.....		38.76			13.55			1.10			145.07	1.10	149.51	62.33	
District No. 5.....		146.47	3.13		174.57	5.24		3.80	3.89	8.67	555.77	89.65	539.43	234.52	99.81
Allegany.....		61.80	0.66		270.63	3.04		5.60			20.13	80.20	8.75	119.41	36.06
Frederick.....		115.31	1.49		538.62	2.79	0.01	8.66	0.07		75.59	34.89	18.71	160.96	42.81
Garrett.....		134.88	1.36		279.00	2.79		0.40			161.46	25.84	7.12	135.21	13.50
Washington.....		102.91	0.62	0.17	97.35	1.83	8.64	1.97	0.32	1.35	122.32	33.77	15.24	259.46	41.78
District No. 6.....		414.90	4.13	0.17	1,185.60	10.45	8.65	16.63	0.39	1.35	379.50	174.70	49.82	675.04	134.15
State Total.....		1,222.76	25.83	0.17	3,870.32	39.76	8.65	788.92	20.52	15.21	2,426.81	362.90	829.68	2,799.19	399.36

A & B, unimproved; C, graded and drained; D, soil-surfaced; E, gravel, stone, etc.; F & G, low-type bituminous; H & I, high-Baltimore City excluded.

LE 1

SYSTEMS BY TYPES, BY COUNTIES, AND BY DISTRICTS AS OF JANUARY 1, 1948

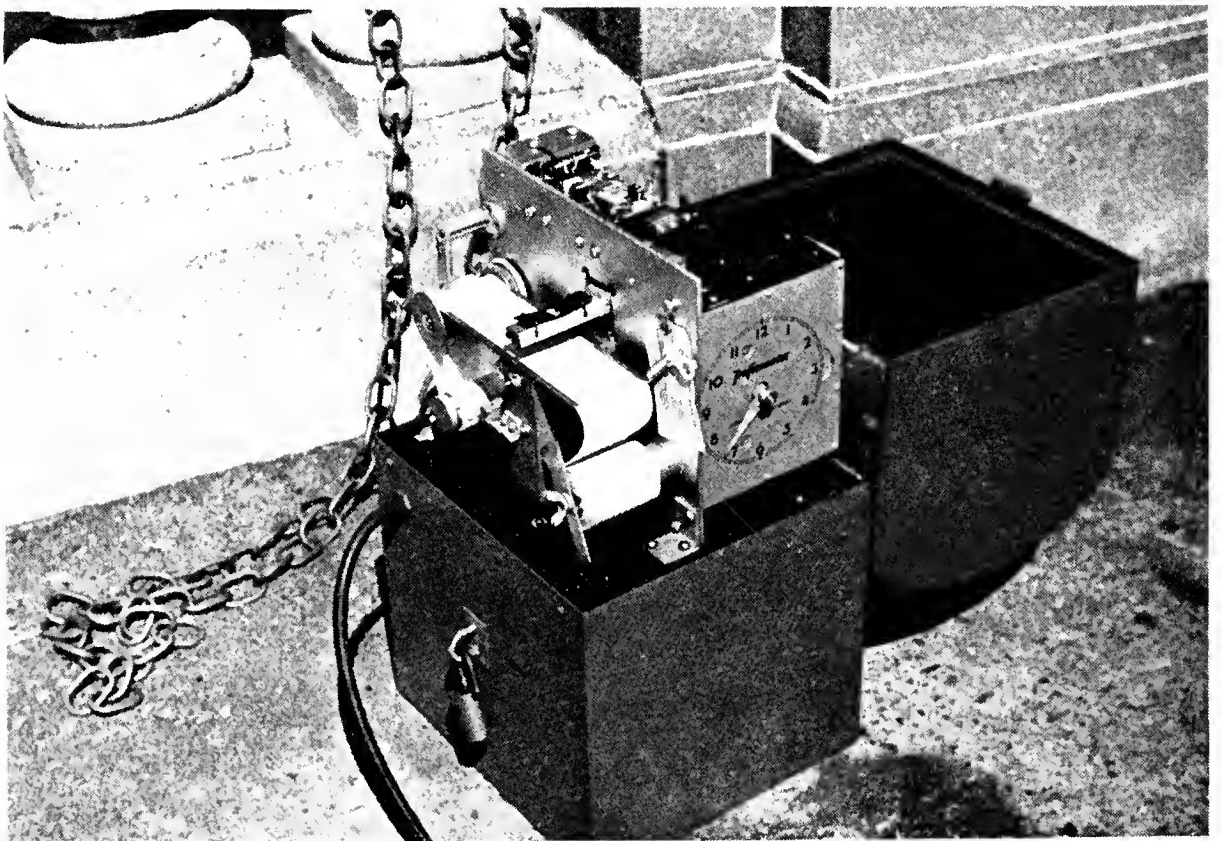
Types of Roads

H & I			J			K			L			M			MILEAGE			
State	County	Mun.	State	County	Mun.	State	County	Mun.	State	County	Mun.	State	County	Mun.	State Roads	County Roads	Municipal Streets	Total
51.95	.....	0.10	79.50	.....	0.38	0.21	.....	0.82	.....	.....	.....	2.68	.....	.....	152.42	481.71	36.54	670.67
33.73	.....	.....	62.92	.....	1.86	.....	.....	.....	.....	.....	.....	0.46	.....	1.21	104.47	288.05	17.92	410.44
48.92	.....	41.38	55.11	.....	1.43	.....	.....	0.71	.....	.....	.....	29.07	.....	.....	146.44	505.09	80.16	731.69
35.79	.....	8.94	92.61	0.10	3.97	.....	.....	.....	.....	.....	.....	10.72	.....	0.11	164.60	444.46	35.61	644.67
170.39	.....	50.42	290.14	0.10	7.64	0.21	.....	1.53	.....	.....	.....	42.93	.....	1.32	567.93	1,719.31	170.23	2,457.47
39.66	.....	0.36	81.30	.....	2.25	.....	.....	.....	.....	.....	.....	5.71	.....	.....	141.66	460.24	30.88	632.78
74.29	4.50	0.73	98.83	0.40	0.56	.....	.....	.....	.....	.....	.....	9.91	.....	.....	193.52	440.39	24.50	658.41
25.17	0.40	0.82	106.42	.....	.....	.....	.....	.....	.....	.....	.....	1.66	.....	.....	147.81	230.35	11.09	389.25
37.59	0.10	0.72	76.17	.....	0.97	.....	.....	.....	.....	.....	.....	1.04	0.26	.....	151.70	390.74	8.71	551.15
33.92	.....	3.84	74.39	0.50	2.17	.....	.....	0.05	.....	.....	.....	0.20	.....	.....	116.96	269.04	26.81	412.81
210.63	5.00	6.47	437.11	0.90	5.95	.....	.....	.....	0.05	.....	.....	18.52	.....	0.26	751.65	1,790.76	101.99	2,644.40
105.47	.....	7.91	75.47	0.80	3.66	0.59	.....	2.68	0.01	.....	.....	26.50	.....	0.15	256.39	704.30	20.73	981.42
94.33	99.37	17.01	88.01	1.10	2.46	.....	.....	.....	.....	.....	.....	1.67	.....	.....	207.87	712.80	53.42	974.09
74.04	10.45	.....	65.21	.....	.....	.....	.....	.....	.....	.....	.....	2.41	.....	.....	149.95	286.45	.....	436.40
196.86	51.18	23.59	115.23	27.02	19.71	.....	.....	.....	.....	.....	.....	12.58	.....	.....	330.88	724.08	84.76	1,139.72
470.70	161.00	48.51	343.92	28.92	25.83	0.59	.....	2.68	0.01	.....	.....	43.16	.....	0.15	945.09	2,427.63	158.91	3,531.63
172.58	114.98	.....	116.13	168.10	.....	.....	.....	.....	.....	.....	.....	2.97	.....	.....	293.05	1,350.22	.....	1,643.27
150.02	64.83	1.42	105.60	0.90	1.18	.....	.....	.....	.....	.....	.....	1.85	.....	.....	265.41	578.01	45.06	888.48
322.60	179.81	1.42	221.73	169.00	1.18	.....	.....	.....	.....	.....	.....	4.82	.....	.....	558.46	1,928.23	45.06	2,531.75
11.45	.....	.....	17.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	122.53	180.79	12.71	316.03
11.81	.....	.....	31.10	.....	.....	.....	.....	.....	.....	.....	.....	4.70	.....	.....	268.46	263.92	7.12	539.50
115.89	0.06	20.36	59.86	0.10	34.81	.....	.....	.....	.....	.....	.....	12.09	.....	0.31	271.90	409.77	236.27	917.94
49.83	4.43	0.32	10.95	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	210.29	265.24	1.42	476.95
188.98	4.49	20.68	119.31	0.10	34.81	.....	.....	.....	.....	.....	.....	16.79	.....	0.31	873.18	1,119.72	257.52	2,250.42
88.78	8.37	11.96	55.04	.....	8.58	.....	.....	22.48	.....	.....	0.35	1.67	.....	0.22	154.24	485.94	163.55	803.73
185.72	107.87	7.49	90.82	0.47	3.08	0.13	.....	.....	.....	.....	.....	3.60	.....	0.23	298.99	1,007.48	92.85	1,399.32
76.45	9.55	0.12	61.55	.....	1.32	.....	.....	0.04	.....	.....	.....	0.07	.....	.....	145.19	720.50	44.97	910.66
166.30	41.63	35.47	28.23	.....	24.99	.....	.....	0.65	.....	.....	.....	6.34	.....	1.20	226.27	625.64	140.63	992.54
517.25	167.42	55.04	235.64	0.47	37.97	0.13	.....	23.17	.....	.....	0.35	11.68	.....	1.65	824.69	2,839.56	442.00	4,106.25
1,880.55	517.72	182.54	1,647.85	199.49	113.38	0.93	.....	27.38	0.06	.....	0.35	137.90	.....	3.69	4,521.00	11,825.21	1,175.71	17,521.92

type bituminous; J, concrete; K, brick; L, block; M, dual type.



SPECIALLY OUTFITTED TRUCK FOR TRANSPORTATION OF
PORTABLE AUTOMATIC RECORDERS



CLOSE-UP VIEW OF PORTABLE AUTOMATIC RECORDERS

is divided into two districts. In each district an employee with the classification of Traffic Recorder is assigned to make the counts. Each Traffic Recorder is equipped with four portable automatic recorders to make short counts on local roads at a selected group of stations in addition to the 108 key stations. The portable recorders are also placed over week-ends by each Traffic Recorder at a group of stations selected for volume counts by geographic characteristics. Beginning January 1, 1948 additional stations were selected on secondary State highways and the Traffic Recorders were scheduled to make short counts with automatic recorders at these stations.

Since the previous biennial report the Division has acquired additional portable automatic recorders bringing the total to 53 machines including equipment assigned to the Traffic Recorders. The purpose in purchasing the additional equipment was to expand the week-end count coverage, and to provide for the increasing number of special studies requiring this type of equipment. To efficiently transport the portable automatic recorders a 1½ ton truck chassis was purchased and a special body built with individual compartments to transport 64 portable automatic recorders, individual compartments for batteries and accompanying miscellaneous equipment. All of the recorders are placed out over week-ends at a number of the 108 key stations and other stations at which recorders are not placed by the Traffic Recorders. The equipment is also used in conducting other traffic engineering studies.

The 18 photo-electric recorders were kept in continuous operation during the period. Each counter is visited regularly once every four weeks at which time they are thoroughly inspected, adjusted, check counts made and tapes removed. A monthly record is kept of the performance of each of these machines. The location of each of these recorders is shown on the accompanying map.

It is from the tapes removed from these machines that monthly counts are obtained. These data are compiled and placed on cards each covering a one-week period. Copies of these cards are prepared and supplied each month to the Public Roads Administration. These data, together with that from other States make it possible for them to give traffic volume comparisons and trends by years and groups of years, by States, and by regions of the United States. The data accumulated by these machines provide means of detecting daily, monthly, and annual traffic volume variations.

The traffic volume data gathered by the Traffic Recorders and the automatic equipment enables the Division to prepare monthly traffic tables for use of the several departments of the Commission, the Public Roads Administration, and others in and out of the State who are vitally interested in this information. The small map accompanying these monthly reports shows by symbols the location of each of the 108 key stations as well as each of the 18 photo-electric traffic recorders.

These sources have enabled the Division to keep current the average daily traffic by road sections for each road on the State highway system by years since 1937.



TRAFFIC SIGNAL SERVICE TRUCK



TRAFFIC SIGNAL UTILITY TRUCK

The total volume of traffic passing 13 of the photo-electric recorders by years from 1941 to 1947, inclusive, and the first six months of 1948 is shown in the fol-

lowing tabulation with comparisons made with 1941, the last normal year before the war.

Year	Total Vehicles Counted	Percent Change Compared to 1941
1941	18,440,663	.....
1942	12,913,669	-29.97
1943	10,600,804	-42.51
1944	11,464,356	-37.83
1945	12,659,701	-31.35
1946	17,396,129	-5.67
1947	18,393,215	-0.26
1948 (Jan. to June, incl.)	9,129,925	+7.03

The effect of gasoline and tire rationing during the war is clearly evidenced by the tabulation. The year of 1947 was just back to normal and indications are that 1948 will be about seven percent higher than 1941.

The following tabulation shows the net gasoline consumption by years from 1941 to 1947 and the first five months of 1948 with comparisons made with 1941, the last normal year before the war.

Year	Gallons	Percent Change Compared to 1941
1941	355,524,287	.....
1942	300,696,894	-15.42
1943	252,059,294	-29.10
1944	264,219,063	-25.68
1945	291,796,082	-17.93
1946	371,557,222	+4.51
1947	407,045,622	+14.49
1948 (Jan. to May, incl.)	171,422,797	+26.80

As evidenced by the tabulation the rate of decrease in gasoline consumption did not reach that of traffic. While different reasons may be assigned by many persons for this situation, it is apparent that gasoline consumption never reached the low attained by travel on the rural highways. With new cars unobtainable and repair parts for old cars difficult to secure, the heavier loading of these older cars and change in travel pattern all had a tendency to decrease the mileage obtained per gallon of gasoline consumed. Also the influx of war workers, reflected in the increase in Maryland registrations, accounted for some of the variance in the rate of decrease of travel and gasoline consumption.

During the fiscal year ending June 30, 1947, seven traffic signals were erected at the following locations:

Signals installed July 1, 1946 to June 30, 1947

Location	Date put in service	Type
Washington Blvd. and Entrance to U. S. Plant Industry Station.....	11-12-46	Semi-actuated
US Route 301 and Md. Route 5 at T.B.....	2- 3-47	Semi-actuated
US Route 301 and Central Ave. (Sears Corner).....	3- 6-47	Full-actuated
Reisterstown Road and Westminster Pike.....	3-18-47	Semi-actuated
Queens Chapel Road and Agar Road.....	4-16-47	Semi-actuated
US Route 301 and Md. Route 4 (Wells Corner).....	6- 5-47	Full-actuated
*Entrance to Agar Road Elementary School.....	6-11-47	Pedestrian control

* Installation costs paid by P.T.A. of Agar Road School.

Record of Revisions to Existing Traffic Control Signals

Location	Date of change	Type of change
Pulaski Highway at Otsego Street.....	10- 1-46	Two-phase to three-phase
Reisterstown Rd. and Westminster Pike.....	4- 2-47	Two-phase to three-phase
Central Avenue and Largo Road.....	4-28-47	Semi- to full-actuated
Martin Blvd. and Middle River Road.....	6-16-47	Two-phase to three-phase

NOTE: During this period flasher units were installed at 34 signalized intersections as additional and auxiliary equipment

At the close of June 30, 1947 the Division was maintaining 89 traffic signals. Due to change in traffic volumes, redesign of intersections and other factors, the signals at 13 locations were removed during the fiscal year.

During the year ending June 30, 1948, twenty traffic signals were installed at the intersections listed below:

Signals installed July 1, 1947 to June 30, 1948

Location	Date put in service	Type
US Route 213 and US Route 113 in Berlin...	7- 2-47	Flasher
Defense Highway and Landover Road.....	8-29-47	Full-actuated
New Hampshire Ave. and University Lane...	9- 4-47	Full-actuated
Colesville Road and East-West Highway....	9-26-47	Fixed-time
New Hampshire Ave. and East-West Highway.	10- 6-47	Full-actuated
Eastern Boulevard and Bennett Road.....	10-16-47	Full-actuated
Eastern Boulevard and Eastern Avenue.....	10-16-47	Full-actuated
Defense Highway and River Road.....	10-31-47	Fixed-time
Defense Highway and Edmonston Road.....	10-31-47	Fixed-time
Belair Road and Fullerton Avenue.....	11- 4-47	Semi-actuated
Belair Road and Taylor Avenue.....	11- 6-47	Semi-actuated
*Md Route 480 and Md Route 313 in Greensboro.....	12-18-47	Fixed-time
Md. Route 5 in Clinton.....	12-23-47	Semi-actuated
Loch Raven Boulevard and Joppa Road.....	3-17-48	Full-actuated
**Ethan Allen and Carroll Aves., Takoma Park..	3-25-48	Three-phase fixed time
US Route 301 and Md. Route 6 in La Plata..	4- 1-48	Semi-actuated
***US Route 11 at Halfway.....	4- 5-48	Fixed-time
Washington Blvd. at entr. to Dairy Building...	4-22-48	Fixed-time
Washington Blvd. at Knox Road, College Park.....	4-23-48	Fixed-time
US Route 301 and Md. Route 75 at Dorr's Corner.....	6- 8-48	Flasher

*Installation by the State Roads Commission at Town's expense.

**State Roads Commission paid one-half cost of installation. Maintenance at Town's expense.

***Installation at expense of P.T.A. Accepted for maintenance by State Roads Commission.

Record of Revisions to Existing Traffic Control Signals

Location	Date of change	Type of change
Gov. Ritchie Highway at 11th St., Brooklyn...	10-18-47	Incorporated pedestrian control with flasher
US Route 301 and Md. Route 5 at Waldorf.....	4-21-48	Flasher to three-phase fixed time
Washington Blvd. and University Lane.....	4-22-48	Actuated to fixed-time coordinated
Washington Blvd. and College Avenue.....	4-22-48	Actuated to fixed-time coordinated

NOTE: During this period flasher units were installed at eight signalized intersections as additional and auxiliary equipment.



HAGERSTOWN TRANSPORTATION STUDY
INTERVIEWING NORTH BOUND TRAFFIC ON POTOMAC STREET NORTH OF CHURCH STREET. AUGUST 1, 1947

As of June 30, 1948 the Division was maintaining 107 traffic signals. The signals are inspected regularly once each week, the inspection includes a thorough check of timing, operation of detectors in the case of actuated signals, inspection of the controller, reflectors, lenses, and scheduled bulb replacements. There are three employees assigned to signal installation and maintenance. They work from shops at the Southern Avenue Garage and the Glen Burnie Garage. Two tower trucks and one utility truck are assigned to this work. The "out-of-operation" time has been held to a minimum through the interest and full cooperation of the employees assigned.

During the two years ending June 30, 1948, the Division made a total of 840 special studies for the Commission. These studies varied from speed zoning of highways to studies for interchanges for proposed expressways. They included many studies of intersections for traffic control and channelization. Among the more important and technical of these were:

- Completion of The Transportation Study-Baltimore Metropolitan Area in July 1947, and the publication of the report in 4 Volumes. (This report is considered an outstanding publication in this field).
- The Hagerstown Traffic Survey
- Engineering and Economic Report on Relocation of Md. Route 313 and US 213 between Galena and Salisbury
- Loadometer Resurvey in the fall of 1946
- Traffic Survey of Ocean City
- Legislative data resulting in increase of motor vehicle registration fees
- Development of criteria for spacing of crossovers on dual highways
- Preparation and transmittal of tentative program of roads on the State highway system for modernization under Chapter 560, Acts of 1947
- Cooperation with the Toll Road Study Committee
- Coordinating the control of activities in connection with reduced commercial vehicle weights resulting from frost damage to highways
- Cooperated with the District of Columbia for Transportation Study of the D. C. Metropolitan Area
- Revision of Report on the Loss of Gasoline Tax Revenue to the District of Columbia
- Traffic Survey of Berlin
- Prepared and transmitted—Comparative Statistical Data Related to Highways
- Channelization of approaches to Francis Avenue and Sulphur Spring Road grade elimination projects
- Improvement of Washington Boulevard through College Park
- Channelization of Rhode Island Ave., at 38th St.
- Development of preliminary plans of highway gradeseperation for T.B., Reisterstown By-pass and Annapolis By-pass

In addition to the special studies enumerated above, the Division supplied data from its records on 640 occasions to other divisions of the Commission, State and Federal agencies, and individuals.

FISCAL

The continuing phase of the Road Life Study was completed up to January 1948. Such pertinent information on highway construction, widening, and resurfacing as type, width, length, cross-section, and cost, is now available on all State highways.

The following reports were prepared and submitted to the Public Roads Administration:

Name of Report	Period Covered by Report
Motor Vehicle Registration Statistics.....	Month, calendar and registration year
Actual Gallons of Gasoline Sold.....	Month, calendar year
Application of Gasoline Tax Revenue.....	“ “ “
Distribution of Refunds.....	“ “ “
Retail Prices of Gasoline.....	Monthly

Hagerstown Traffic Survey

In July 1947, the Hagerstown Traffic Study was inaugurated by the State Roads Commission to conduct, in cooperation with the City of Hagerstown and the U. S. Public Roads Administration, a comprehensive traffic study of Hagerstown. This was the first study employing on-street interviewing in a city the size of Hagerstown.

The study was divided into two phases—the internal cordon interview stations and the external cordon interview stations. At the internal interview stations 85 percent of the outbound vehicles were stopped and interviewed, while at the external stations 91 percent of the outbound vehicles were stopped and interviewed.

Information was obtained for week-day travel only—from Mondays through Fridays, both for the internal and external interview stations.

The study area was bounded by the corporate limits of Hagerstown. This boundary was used as the external cordon. The internal cordon was placed around the central business district.

For the purpose of studying traffic movements the study area was subdivided by land use characteristics, such as residential, business, industrial, and others. The study area, for origin and destination purposes, was divided into:

- 9—Areas
- 33—Districts
- 267—Zones
- 29—Sectors

The boundaries of the areas are laid out to ascertain the traffic movement from the north, northeast, east, southeast, south, southwest, west, and northwest into the central business district. Each area is fed by one or more principal streets. The areas are subdivided into districts in such a manner that traffic movements on each main thoroughfare can be traced, studied, and analyzed. In order to further study traffic movements within districts they have been divided into zones. The zones, in some instances, were divided into sectors where factories, hotels, or other large generators of traffic were located. In the thickly congested central business district a zone is equivalent to a city block, while in more sparsely settled sections a zone may include several blocks.

For analysis, the zone was used in the central business district. For other portions of the study area, districts were used for analysis purposes. All origins and destinations, however, were coded by zones and sectors which will make possible the study of specific highway locations or improvements as required.

The purpose in having the two cordon lines was to ascertain the number of trips from outside the study area which had origins or destinations in the area but not in the central business district. The cordon around the central business district

provided a means of studying all trips with either origins or destinations in the central business district.

At both cordon lines only outbound vehicles were stopped and interviewed. This method proved very successful in that most drivers, particularly those originating in Hagerstown, were able to give accurate data concerning the point from which the trip was begun. In the analysis, trips which had either origin or destination outside of Hagerstown were used only from interviews obtained at the external cordon, precluding the possibility of duplicating trips crossing both cordons. All trips, except through trips from outside to outside of external cordon, were doubled in the process of analysis to expand the interviews which were made for outbound traffic only.

Interviewing was carried on for twenty-four hours at four of the fourteen external interview stations and at one (N. Potomac Street) of the eighteen internal interview stations. At the remaining stations on both cordons outbound vehicles were stopped and interviewed from 7:00 a.m. to 11:00 p.m. During the interviewing an accurate count of vehicles, by type, was made for both directions of travel. At the same time 24-hour counts were made with automatic traffic recorders. These counts, both manual and automatic, were used as a basis for expanding the interviews to twenty-four hours at interview stations which were operated for only sixteen hours.

All field work was completed by the fall of 1947. The tremendous volume of data have been analyzed; numerous charts and plates prepared and the report released in June 1948.

This study was the first in Maryland to include a preliminary engineering report with cost estimates and priorities. Already some of the recommendations contained in the interim plan have been put into effect and the results are being lauded by the officials of Hagerstown, the associations, and the press.

The directing staff of the Hagerstown Traffic Study was comprised of:

Geo. N. Lewis, Jr., Director	Director, Traffic Division State Roads Commission of Maryland
Ernest W. Bunting Analyst	Traffic Division, State Roads Commission of Maryland
Lloyd A. Daum Analyst	Traffic Division, State Roads Commission of Maryland
Jas. H. Hasenbalg Field Supervisor	Traffic Division State Roads Commission of Maryland
Janet McCreary Daum Secretary	Traffic Division State Roads Commission of Maryland

PERMITS AND OUTDOOR ADVERTISING

AUSTIN F. SHURE

Assistant to Chief Engineer

PAUL E. SUTHERLAND

Advertising Sign Engineer

J. EDGAR STRONG

Assistant Advertising Sign Engineer

ANNE T. STICKLES

Weight and Load Permit Agent



MD. ROUTE 23 BLACKHORSE TO SHAWSVILLE ROAD



MD. ROUTE 562—OLD YORK ROAD NEAR MANOR
SNOW REMOVAL ON STATE HIGHWAYS—FEBRUARY, 1947

PERMITS AND OUTDOOR ADVERTISING

CONTROL OF THE HIGHWAYS

The State Roads Commission has been given very broad powers over the control of the highways in the State System. During the early years of the Commission's history, there were certain legislative enactments legalizing the procedure which has been in use since that time in one form or another. There have been amendments and revisions to the former legislation but the intent of the original enactments remain without change, as evidenced by the following:

Chapter 8 of Article 89-B of the Laws governing the State Roads of Maryland states that:

“No opening shall be made in any such highway nor shall any structure be placed thereon, nor shall any structure which has been placed thereon be changed or renewed except in accordance with a permit from the Commission which shall exercise complete control over such highways except as herein otherwise provided. No State highway shall be dug up for laying or placing pipes, sewers, poles or wires or railways or for other purposes and no trees shall be planted or removed or obstructions placed thereon without the written permit of the State Roads Commission or its duly authorized agent and then only in accordance with the regulations of said Commission and the work shall be done under the supervision and to the satisfaction of said Commission and the entire expense of replacing the highway in as good condition as before shall be paid by the person to whom the permit was given or by whom the work was done.*****”.

Section 65 of Article 89-B of the Maryland Laws makes reference to the following regarding weights of vehicles passing over bridges:

“The State Roads Commission shall have the power and right to regulate the weights of wagons, trucks, road engines, road rollers, traction engines, threshing machines, or other vehicles of any kind passing over any bridges or culverts included in the State Road System and the rate of speed of such vehicles while passing over the same by posting and maintaining conspicuously at both ends of or entrance to said bridges or culverts signboards with lettering not less than three inches in height worded as follows, to wit: ‘Warning—Weight not to exceed (here insert numerals) pounds, Speed not to exceed (here insert numerals) miles per hour’ which shall be taken to mean that no vehicle of any kind as above enumerated weighing with or without any load which may be in or upon the same, more than the number of pounds specified on said signboard shall pass or be drawn, driven or propelled or in any other manner taken over said bridge or culvert and that no such vehicle of any kind as above enumerated shall pass or be drawn,

driven or propelled or in any other manner taken over said bridge or culvert at a greater rate of speed than that specified on said signboard*****".

Article 56 of Section 194 (2A) refers to the weight of motor vehicles as follows:

"Commercial vehicles with a shipping weight of 7,500 pounds and over, shall not have a gross weight in excess of 26,000 pounds. The State Roads Commission with respect to highways under its jurisdiction may by resolution, prohibit the operation of vehicles upon any such highway or impose restrictions as to the weights of vehicles to be operated upon any such highway, for a total period of not to exceed 90 days in any one calendar year, whenever any said highway by reason of deterioration, rain, snow or other climatic conditions will be seriously damaged or destroyed unless the use of vehicles thereon is prohibited or the permissible weights thereof reduced."

"The State Roads Commission enacting any such resolution shall erect or cause to be erected and maintained signs designating the provisions of the ordinance or resolution at each end of that portion of any highway affected thereby, and the resolution shall not be effective unless and until such signs are erected and maintained."

Under Sections 274 to 284 inclusive in Article 56 of the Maryland Laws, the control of Outdoor Advertising is set forth in considerable detail. The issuing of permits as a result of these basic legislative requirements and the several amendments thereto is carried out in a manner which will be covered under the several respective headings as follows:

PERMITS

The Utility Permit

The control of public utilities in the early days of the Commission's history was done by the granting of franchises and permits to the larger utility companies such as the Chesapeake and Potomac Telephone Company and others for which a charge was imposed by this Commission. The procedure has led to an appeal to the Courts by one of the large utility companies on the basis that the Laws which gave the State Roads Commission the right to control the highways did not grant the right to charge for such privileges.

It is interesting to note in this connection that back in the year 1868 a legislative enactment referred to as Section 295 of Article 23, provides for the following use of the highways of Maryland by the public utility companies:

"It may construct a line or lines of telegraph through this State, or from or to any point or points within this State or upon the boundaries thereof, and along and upon any postal roads and postal routes, roads, streets, and highways or across any of the bridges or waters within the limits of this State by the erection of the necessary fixtures including posts, piers, or abutments for sustaining the cords or wires of such lines, without their being deemed special nuisances or subject to be abated by any private party; provided the same shall not be so constructed as to incommode injuriously the public use of said postal roads or postal

routes, roads, highways and bridges or injuriously interrupt the navigation of said waters, or interfere with the convenience of any land owner more than is unavoidable."

In any event, the action of the Court of Appeals which bears the date of January 6, 1918 rendered the opinion that while the State Roads Commission had full control over the highways of the State System, the Legislation on the subject did not establish the Commission as a collecting agency for such privileges and the Commission therefore, was restrained thereby from such procedure.

The utility permit is issued in every case where permanent or temporary structures of any kind are placed within the limits of the highway and where because of such installation the highway service may be affected to some degree.

The request emanating with private individuals and the public utility corporations are presented first to the District Engineer's office for investigation and recommendation. If the request is one which would affect the movement of traffic, studies are made in advance of the District Engineer's recommendation by the Traffic Division. This procedure is usually followed where approaches to service stations are involved. Field representatives from the District Engineer's office are assigned to the Metropolitan Areas around Baltimore and Washington because the requests of this kind are most numerous in these localities and particularly so during the past several years since the War because of the extensive building which is being done in the suburban areas.

Permits of a character which affect the surfacing of the highways are issued under very definite requirements which have been standardized, and the maintenance of such areas after restoration is being handled in certain localities adjacent to Washington where, in addition to the restrictions governing the removal and replacement of paving, maintenance bonds are required which insures the keeping of the highway in good condition for a period up to 18 months following the installation. These bonds in their final form are issued from the Baltimore Headquarters of the Commission.

From July 1, 1946 to June 30, 1947, 3,687 utility permits were issued. During the period from July 1, 1947 to June 30, 1948, 3,815 were issued.

The Freeway Permit

Sections 150 to 155 inclusive of Article 89-B of the Annotated Code of Maryland (1943 Supplement) grants to this Commission the authority to establish as a freeway any existing highway or any proposed highway. When an existing highway is designated as a freeway, the Commission may by agreement or condemnation of adjacent property restrict ingress and egress.

Under this legislation, the Commission is granted the authority to construct new highways as freeways, whereby ingress and egress is either denied or restricted. There are as of this date, three existing highways in the State designated as freeways, namely, the Pulaski Highway from the Baltimore City Line to the Delaware State Line; the Gov. Ritchie Highway from the Baltimore City Line to Annapolis;

the Frederick-Hagerstown Relocation, beginning with Route 40 West of Frederick and terminating at the city limits of Hagerstown.

The Commission has not exercised its authority in the purchase of land adjacent to any portion of these highways, nor has it attempted to restrict ingress and egress except to the extent of providing safe and adequate approaches to private entrances and places of business. In all such cases, the permits issued for ingress and egress were given special consideration, and the permittee was notified that the highway has been designated as a freeway, and that certain lands may at some later time be acquired, or certain restrictions issued controlling ingress and egress.

These matters are handled through the District Engineer's office, which makes comprehensive reports in connection therewith, providing plans of the original improvement, indicating thereon the location of the approach, and submitting therewith photographs of the location. All entrances to filling stations or business properties are channelized in accordance with the Commission's standards.

From July 1, 1946 to June 30, 1947, 195 freeway permits were issued. From July 1, 1947 to June 30, 1948, 211 were issued.

The Traffic Light Permit

This is a type of permit which customarily is issued to the Town or municipalities through which the State highway passes and they are as a rule issued with the understanding that the installation and maintenance will be at the expense of the municipality.

The procedure is one whereby the request for such is turned over to the Traffic Division, a study is made, and a recommendation submitted wherein the need for such installation is commented upon. If approved, recommendations are made as to the type of installation which would be desirable. Under the circumstances, this form of permit is issued only with the approval of the Commission because it is of public concern. By such installation, the movement of all traffic is restricted.

From July 1, 1946 to June 30, 1947, 9 traffic light permits were issued. During the same period in 1947 and 1948, 9 were issued.

The Special Hauling Permit

The legal requirements under which vehicles are permitted to use the highways have been modified at several of the succeeding legislatures following the original enactment to which reference is made herein. Under provision of Article 66½ of the Annotated Code of Maryland, the width of motor vehicles is restricted to 96 inches. Their length is restricted to 55 feet. The maximum axle load is placed at 22,400 pounds and the load per inch width of tire is limited to 600 pounds.

For all movements beyond these restrictions, a public hauling permit is issued and in accordance with the 1947 Supplement of Article 66½ of the Maryland Annotated Code, a fee for the issuance of overweight and oversize movements is charged at the rate of \$10.00 per trip. Under the Legislative requirements a formula is set up for the maximum gross weight, as follows:

“No motor vehicle or combination of motor vehicles mounted on pneumatic

tires shall have a gross weight in pounds including load, in excess of that derived from the formula 750 times (L plus 40) in which L shall be the distance in feet measured horizontally between the center lines of the first and the last axles of the vehicle or combination."

Gross loads are, however, controlled by bridge capacities and the Division of Bridge Design has, as a result of its studies of the structures throughout the State, information which will enable them to determine the load capacity of every structure throughout the State Highway System. Therefore, requests for unusual loading of the highway are referred to the Division of Bridge Design before action is taken. This is especially true in the event the movement involves a gross load of more than 35 tons. Generally 35 tons is the maximum load permitted over structures throughout the State. When bridges are not involved, the load per inch width of tire as established by Law, is not exceeded. The 600 pounds per inch width of tire is believed to be the maximum which the highways throughout the State generally should be permitted to carry.

Hauling permits are issued upon the receipt of rather comprehensive applications upon which are indicated the loads of the units, the make and model of the unit, the amount of rubber on the tires, the company with whom the applicant is insured in the event of damage, and the route for which the permit is requested. A time limit is set up within which the number of days is specified for the movement to be made and which ordinarily does not exceed five days. Axle diagrams are indicated on the application upon which are shown the number of axles and the respective distance between them.

Special loadings wherein considerable weight is involved, or where questions arise as to the accuracy of the information received, are thoroughly inspected in the field and recommendations are made by one who is familiar with the respective types and weights of the equipment and whose recommendation is followed in the disposition of the request.

The 1947 Supplement to Article 66 $\frac{1}{2}$ was put into effect May 1, 1947 and up until and including June 30, 1948, 4,520 permits were issued, for which collection was made in the amount of \$47,890.00. It might be interesting to note even though it becomes necessary to issue many permits on a credit basis, no permit has remained unpaid. From July 1, 1946 until April 30, 1947, the period prior to the charging for hauling permits, 1,609 special hauling permits were issued.

OUTDOOR ADVERTISING

The Administration of the Outdoor Advertising Law requires the issuance of licenses and tags for all signs and bill-boards erected or to be erected within 500 ft. from the limits of State Highways, with exceptions as outlined in the Law. Those assigned to the work approve of such issuances and keep a constant watch on all roads for violators of the Law and arrange for the removal of signs placed by such violators.

Cooperation is maintained with all the Zoning Boards throughout the State in order to maintain a continuity of thought in both the execution of the Law and the

desires of the respective Zoning Boards. A general survey of all signs in the State is made at least twice a year to ascertain the condition of signs, thereby preventing such erection to become a hazard to travel, and to determine whether or not all signs bear the tags which are an assurance that the owner is complying with the State Laws.

From July 1, 1946 to June 30, 1947, inclusive, there were 98 signs of a general nature removed from the State Highway System. 50 of these signs were removed from within the limits of the right-of-way of the State highway. In addition to the above, 2,000 small cardboard signs were removed.

During the fiscal year beginning July 1, 1947 there were 209 signs removed from along the State highway, 54 of which were taken from within the limits of the highway right-of-way. 1,375 of the small cardboard signs were removed.

LICENSE FEES RECEIVED FOR THE RESPECTIVE YEARS

July 1, 1946 to June 30, 1947

Sign Licenses	
23 @ \$50.00	\$ 1,150.00
9 @ \$200.00	1,800.00
Miscellaneous	54.00
Sign Permits	10,031.00
TOTAL	\$13,036.00

July 1, 1947 to June 30, 1948

Sign Licenses	
18 @ \$50.00	\$ 900.00
8 @ \$200.00	1,600.00
Sign Permits	4,687.67
TOTAL	\$ 7,187.67

DISTRICT NO. 1
Headquarters—Salisbury, Maryland

C. ALBERT SKIRVEN
District Engineer

P. C. COOPER
Assistant District Engineer
Construction

HARRY V. JONES
Acting Assistant District Engineer
Maintenance

DORCHESTER COUNTY
WM. H. MOORE
Resident Maintenance Engineer

SOMERSET COUNTY
HAROLD H. CULLEN
County Roads Superintendent

WICOMICO COUNTY
CARROLL L. BREWINGTON, JR.
Acting Resident Maintenance Engineer

WORCESTER COUNTY
WM. F. WALLER
Resident Maintenance Engineer



FROST DAMAGE—WINTER 1947-1948—ON U.S. ROUTE 213



FROST DAMAGE—WINTER 1947-1948—ON U.S. ROUTE 213

DISTRICT NO. 1

District No. 1 comprises Dorchester, Somerset, Wicomico and Worcester Counties.

IMPROVEMENT OF ROADS *July 1, 1946-June 30, 1947*

The mileage of road maintained by the State Roads Commission as of January, 1947 was 567.34 on the State system and 1,733.30 on the County system, making 2,300.64 miles of road maintained from July 1, 1946 to June 30, 1947.

During the fiscal year it became increasingly possible to employ labor, but the equipment situation remained critical, especially parts for grading equipment and trucks.

Increasing traffic on narrow roads built for the most part prior to 1928 made it impossible to keep the shoulders safe by addition of local bank gravel and by blading. Several miles were surface treated (3.5 feet to 4.5 feet wide each side) for greater safety.

On the County system maintenance operations consisted mainly of blading of surfaces, hauling local bank gravel to stabilize soft spots, maintenance and repair of drainage structures, and surface treating.

The maintenance forces reconstructed three timber bridges in Worcester County totalling in length 280 feet. Treated timber and treated piles were used.

In the surface treatment of State and County roads in the summer of 1947, there were used approximately 624,000 gallons of asphalt and approximately 40,000 tons of chips.

A summary of 107.37 miles of improvements to roads in District No. 1 follows showing location by counties, type of improvement, county or state system, and whether done by contract or maintenance forces.

IMPROVEMENTS TO ROADS IN DISTRICT NO. 1 *July 1, 1946-June 30, 1947*

County	BY CONSTRUCTION CONTRACT				BY MAINTENANCE FORCES			TOTALS		
	Constructed New		Widened Surface State	Widened & Re-surfaced State	Resectioned with Athey Loader State	Surface Treated Shoulders State	Oiled Stabilized Surface County	Miles on State System	Miles on County System	Total Miles
	State	County								
Dorchester	3.03	—	—	5.46	5.25	6.96	0.80	20.70	0.80	21.50
Somerset	—	—	—	—	24.00	0.60	4.75	24.60	4.75	29.35
Wicomico	—	1.12	—	—	—	4.00	34.70	4.00	35.82	39.82
Worcester	—	—	—	—	—	2.70	14.00	2.70	14.00	16.70
Total	3.03	1.12	—	5.46	29.25	14.26	54.25	52.00	55.37	107.37

IMPROVEMENT OF ROADS

July 1, 1947-June 30, 1948

Beginning July 1, 1947, the county roads of Dorchester County were taken over for maintenance by the Dorchester County Roads Board. This left under State maintenance the county roads of Somerset, Wicomico, and Worcester Counties amounting to 1,237.60 miles, and the State system of District No. 1 amounting to 567.93 miles, both figures as of January 1948, a total of 1,805.53 miles.

During this period, although the employment of labor was not a great problem, it was necessary in order to keep abreast of normal maintenance, to hire trucks, cranes, and in some cases motor patrol units. This was due to the deteriorated condition of State equipment, some trucks having been operated for more than 300,000 miles.

The immediate apparent effects of frost boils in the winter of 1947-1948 were negligible in District No. 1. However, the deep freeze and following extremely wet weather did show up in late spring and summer in the form of unstable road foundation and caused failures on both State and County roads. Some spots were saturated to such an extent that they remained unstable until after July. Although the damage to the State system was slight, most of the unsurfaced county roads were impassable for from two to six weeks. In an effort to correct these conditions in Somerset County, the maintenance fund was exhausted in May, causing a shutdown of county maintenance operations until after the end of June.

During the summer of 1947-1948, approximately 834,600 gallons of asphalt and approximately 46,700 tons of chips were used in surface treating State and County roads. Maintenance forces reconstructed timber bridges on the county system, using treated timber and treated piles, as follows:

Somerset County.....	210 feet
Worcester County.....	130 feet

Personnel assigned to construction in District No. 1 made centerline surveys and prepared preliminary plans and right of way plats for 21.76 miles of road rehabilitation, and also ran 9.15 miles of preliminary traverse survey to select a route for the rehabilitation of the Berlin-Delaware Line Road.

A summary of improvements to the roads of District No. 1 amounting to 224.41 miles and showing location, type, agency, road system, and maintenance report for period July 1, 1947 to June 30, 1948, follows:

IMPROVEMENTS TO ROADS IN DISTRICT NO. 1
July 1, 1947-June 30, 1948

County	BY CONSTRUCTION CONTRACT				BY MAINTENANCE FORCES			TOTALS		
	Constructed New		Widened Surface State	Widened & Re-surfaced State	Resectioned with Athey Loader State	Surface Treated Shoulders State	Oiled Stabilized Surface County	Miles on State System	Miles on County System	Total Miles Improved
	State	County								
Dorchester.....	—	3.96	—	5.20	15.67	10.66	—	31.53	3.96	35.49
Somerset.....	—	4.06	—	—	12.00	4.90	12.89	16.90	16.95	33.85
Wicomico.....	0.33	3.43	12.60	—	15.00	0.50	37.60	28.43	41.03	69.46
Worcester.....	—	5.80	9.16	10.65	19.50	14.50	26.00	53.81	31.80	85.61
Total.....	0.33	17.25	21.76	15.85	62.17	30.56	76.49	130.67	93.74	224.41

MAINTENANCE REPORT
July 1, 1947-June 30, 1948
ROADWAY SURFACING

Type of Work	Unit of Charge	Rigid J-K	Semi-rigid I	Non-rigid F, G, H, I	Untreated D-E
Patching.....	Sq. Yds.	38,650	9,369	36,033	—
Blading—Dragging.....	Miles	—	—	—	—
Jacking—Asphalt.....	Sq. Yds.	—	—	—	—
Jacking—Cement Slurry.....	Sq. Yds.	—	—	—	—
Resurfacing—Non Bituminous.....	Sq. Yds.	150	142	100	—
Joint & Crack Filling.....	Gals.	12,620	—	—	—
Oiling—Bituminous.....	Sq. Yds.	—	—	229,354	469

SHOULDER MAINTENANCE

Type of Work	Unit of Charge	Bitum.	Stabilized	Grass	Earth
Patching.....	Sq. Yds.	9,920	253,053	—	1,359
Blading—Dragging.....	Miles	—	8,992	—	—
Sodding.....	Sq. Yds.	—	—	65	—
Mowing & Hand Cutting.....	Miles	40	237	720	10
Oiling—Bituminous.....	Sq. Yds.	144,887	36,912	—	—
Removal—Excess Material.....	Cu. Yds.	—	1,542	8,712	16,381

MAINTENANCE—BRIDGES & STRUCTURES

Type of Work	Unit of Charge	Repairs	Replacements	New Installations
Bridge Repairs.....	Number	109	—	—
Pipe & Box Culverts.....	Number	2	11	153
Curb & Gutter.....	Lin. Ft.	—	—	3
Catch Basins.....	Number	3	1	3
Spillways, etc.....	Number	1	—	3
Bituminous Rebutt.....	Lin. Ft.	—	—	240
Underdrain.....	Lin. Ft.	20	—	—

GUARD FENCE

Type of Work	Unit of Charge	Repairs	Replacements	New Installations
New Fence.....	Lin. Ft.	3,070	170	—
Posts.....	Number	22	91	—
Cable.....	Lin. Ft.	—	340	—
Fittings.....	Number	4	80	—
Paint.....	Gals.	2	—	—

RIGHT-OF-WAY

Type of Work	Unit of Charge	MAINTENANCE	
		Roadside	Park Area
Mowing, Clearing & Grubbing.....	Miles	3,390	—
Beautification.....	Sq. Yds.	1,020	1,350
Resetting Fence.....	Lin. Ft.	200	—
Removal of Debris.....	Truck Loads	118	—
Top-Soil.....	Cu. Yds.	135	—
Cutting Grass.....	Acres	2½	40½
Trimming Trees.....	Number	141	—
Moving Equipment.....	Units	205	—
	Miles	6,976	—

TRAFFIC SERVICE

Type of Work	Unit of Charge	Maintenance
Highway Markers.....	Number	1,013
Surface Guide Lines.....	Miles	284.6
Surface Marking, Schools, R.R., Etc.	Number	243
Snow Removal.....	Inches Miles	2,501 mi.
Ice Treatment.....	Cu. Yds.	1,188
Traffic Lights.....	Number	22
Snow Fence.....	Lin. Ft.	130,700
Manual Traffic Count.....	Hours	1,400

DRAINAGE (CLEANING)

Type of Work	Unit of Charge	Maintenance
Ditching (New).....	Lin. Ft.	10,945
Cleaning—Ditches.....	Lin. Ft.	106,171
Cleaning—Pipe Culverts.....	Number	3,231
Cleaning—Box Culverts.....	Number	104
Cleaning—Bridges.....	Number	27
Cleaning—Catch Basins.....	Number	158
Cleaning—Misc. Structures.....	Number	—
Riprapping.....	Sq. Yds.	—

DISTRICT NO. 2
Headquarters—Chestertown, Maryland

ROLPH TOWNSHEND

District Engineer

C. R. SHARRETTS

Assistant District Engineer

Construction

L. B. DEPUTY

Assistant District Engineer

Maintenance

CAROLINE COUNTY

GEORGE H. FOOKS

Resident Maintenance Engineer

CECIL COUNTY

J. J. WARD, JR.

Junior Assistant Highway Engineer

(Maintenance of State Roads)

JOS. T. RICHARDS

Resident Maintenance Engineer

(Maintenance of County Roads)

KENT COUNTY

OWEN S. SELBY

Resident Maintenance Engineer

QUEEN ANNE'S COUNTY

WM. F. LEAVERTON

Resident Maintenance Engineer

TALBOT COUNTY

HARRY C. RASH

Resident Maintenance Engineer

CLYDE C. THRIFT

District Equipment Supervisor



OLD WYE ISLAND BRIDGE



NEW WYE ISLAND BRIDGE

WYE ISLAND BRIDGE AT KENT NARROWS—QUEEN ANNE'S COUNTY. SHOWING
OLD STRUCTURE (above) AND NEW STRUCTURE (below)

DISTRICT NO. 2

District No. 2 comprises Caroline, Cecil, Kent, Queen Anne's and Talbot Counties. The State and County mileages maintained in this district are as follows:

County	State Roads	County Roads
Caroline.....	141.66	460.24
Cecil.....	193.52	440.39
Kent.....	147.71	230.35
Queen Anne's.....	151.70	390.74
Talbot.....	116.96	269.04
	751.65	1,790.76

In the maintenance of the State system the work has been held to a minimum due to lack of funds and inability to acquire labor. It is hoped that it will be possible to improve the maintenance by additional funds throughout the next fiscal year. The demand for improvement of the County road system is continually increasing, especially where hard surfaced roads are being demanded and it is difficult to accomplish this because of the economics involved in both the initial construction as well as the ultimate maintenance.

Betterments have been made on County roads by modification of curves, improvement of bridges and use of gravel surfacing and some hard surfacing. Labor costs and materials have increased and some new equipment has been obtained, all of which is making the maintenance and construction of highways and bridges increase in cost. At the present time there are indications of stabilization in prices of labor and materials which may mean that we have reached the leveling off point.

During the Spring of 1948 considerable frost damage was done to both the State and County highways. The damage, particularly to the State highways, is estimated to have been \$200,000.00 and the damage to the County roads \$250,000.00, most of which was in Talbot County.

The Prison Labor forces have worked periodically on maintenance on both State and County roads when funds were available, besides improving by widening and surfacing Md. Route 313 from Goldsboro to Ingleside, Md. Route 404 from Queen Anne toward Wye Mills, widening Md. Route 20 from Chestertown to Rock Hall and widening U. S. Route 213 (now Md. Route 33) from Easton northward 1½ miles.

Adequate housing facilities are being planned for offices, repair shops, storage sheds, etc. at needed locations throughout the District. Arrangements have been made for the purchase of land for these projects.

Construction projects completed:

Co-180-2, the Sullivan Branch Bridge on County road from Md. Route 313 to Smithville.

Co-180-1, the Federalsburg–Smithville road, gravel surfaced, 2.7 miles.

Co-182, Repairs to Choptank River Bridge on Md. Route 404.

Co-141-1: T-86-2, Easton–Matthews–Denton road, 4.968 miles.

Co-141-2: T-86-3, Tuckahoe River Bridge between Caroline and Talbot Counties.

Ce-165-1, Elkton–Chesapeake City road, 5.544 miles.

Ce-289, Marley Mill Bridge.

K-164, Chestertown–Rock Hall road, 13.25 miles.

K-131-1, Galena–Sassafras road, 4.93 miles.

Q-156-3, Barclay–Church Hill road, 1.772 miles.

Q-202, Island Creek Bridge.

Co-185-1: Q-203-1, Crouse's Mill Bridge.

Q-113-2, Centreville–Ruthsburg, 1.837 miles.

Q-199, Wye Island Bridge.

T-67-1, Easton–Cordova toward Wye Mills, 4 miles.

T-73-1, Easton–Skipton, 5.755 miles.

T-112, Miles Creek Bridge.

Projects under construction:

Ce-229, Childs–Pleasant Hill.

Ce-305-22, Landing Lane Bridge and approaches.

Co-140-3, The Burrsville road.

Co-192, Construction of fender system at West Denton Bridge.

K-164-2, Bridge over Fannel's Branch on Chestertown–Rock Hall road.

Q-108, Queen Anne–Starr road.

Co-206: Q-218, Ingleside–Goldsboro—Md. Route 313.

T-67-3: Q-208-1, Skipton–Wye Mills bypass.

T-67-5, two bridges over north and south branches of Skipton Creek.

T-86-5: Co-141-3, Easton–Matthews–Denton, surface-treatment, 4.969 miles.

Widening and surfacing of Md. Route 33, Easton to Route 213 (prison labor).

Widening and surfacing of U. S. Route 213, Kennedyville–Locust Grove (prison labor).

Widening and surfacing of Md. Route 292, Still Pond–Betterton (prison labor).

*Surface Treatment:**State Roads*

July 1, 1946 to July 1, 1947.....	420,421 sq. yds.	187,295 gals.
July 1, 1947 to July 1, 1948.....	441,873 sq. yds.	220,325 gals.

County Roads

July 1, 1946 to July 1, 1947.....	592,474 sq. yds.	240,502 gals.
July 1, 1947 to July 1, 1948.....	491,436 sq. yds.	186,228 gals.

Maintenance report for the period July 1, 1947 to June 30, 1948 follows:

MAINTENANCE REPORT

July 1, 1947 to June 30, 1948

ROADWAY SURFACING

Type of Work	Unit of Charge	Rigid J-K	Semi-Rigid I	Non-Rigid F, G, H, I	Untreated D-E
Patching.....	Sq. Yds.	320,416	27,741	231,813	44,908
Blading—Dragging.....	Miles	24	—	3	71
Jacking—Asphalt.....	Sq. Yds.	200	—	—	—
Jacking—Cement Slurry.....	Sq. Yds.	4,293	—	—	—
Resurfacing—Non Bituminous.....	Sq. Yds.	—	—	—	61
Joint & Crack Filling.....	Gals.	17,392	—	—	—
Oiling—Bituminous.....	Sq. Yds.	125,196	—	—	—

SHOULDER MAINTENANCE

Type of Work	Unit of Charge	Bitum.	Stabilized	Grass	Earth
Patching.....	Sq. Yds.	13,759	16,567	1,307	33,313
Blading—Dragging.....	Miles	91	2,772	290	1,961
Sodding.....	Sq. Yds.	—	—	11	105
Mowing & Hand Cutting.....	Miles	—	1,271	3,297	4
Oiling—Bituminous.....	Sq. Yds.	88,634	6,669	—	—
Removal—Excess Material.....	Cu. Yds.	4,338	2,672	1,757	61,072

MAINTENANCE—BRIDGES & STRUCTURES

Type of Work	Unit of Charge	Repairs	Replacements	New Installations
Bridge Repairs.....	Number	34	6	1
Pipe & Box Culverts.....	Number	21	106	16
Curb & Gutter.....	Lin. Ft.	900	1	—
Catch Basins.....	Number	30	—	7
Spillways, Etc.....	Number	—	—	6
Bituminous Rebutt.....	Lin. Ft.	—	—	—
Underdrain.....	Lin. Ft.	—	280	687

GUARD FENCE

Type of Work	Unit of Charge	Repairs	Replacements	New Installations
New Fence.....	Lin. Ft.	130	107	—
Posts.....	Number	34	129	—
Cable.....	Lin. Ft.	1,128	288	—
Fittings.....	Number	2	22	—
Paint.....	Gals.	3	1	—

RIGHT-OF-WAY

Type of Work	Unit of Charge	MAINTENANCE	
		Roadside	Park Area
Mowing, Clearing & Grubbing.....	Miles	1,719	—
Beautification.....	Sq. Yds.	970	—
Resetting Fence.....	Lin. Ft.	1,250	—
Removal of Debris.....	Truck Loads	170	88
Top-Soil.....	Cu. Yds.	—	—
Cutting Grass.....	Acres	383	459
Trimming Trees.....	Number	77	1
Moving Equipment.....	Units	56	—
Animals Removed.....	Miles	2,878	—
	Number	13	—

TRAFFIC SERVICE

Type of Work	Unit of Charge	Maintenance
Highway Markers.....	Number	9,518
Surface Guide Lines.....	Miles	611
Surface Marking, Schools, R. R., Etc.	Number	883
Snow Removal.....	Miles	9,423
Ice Treatment.....	Cu. Yds.	3,184
Traffic Lights.....	Number	8
Snow Fence.....	Lin. Ft.	448,850
Manual Traffic Count.....	Hours	629½

DRAINAGE (CLEANING)

Type of Work	Unit of Charge	Maintenance
Ditching (New).....	Lin. Ft.	90,500
Cleaning—Ditches.....	Lin. Ft.	283,176
Cleaning—Pipe Culverts.....	Number	1,230
Cleaning—Box Culverts.....	Number	87
Cleaning—Bridges.....	Number	40
Cleaning—Catch Basins.....	Number	621
Cleaning—Misc. Structures.....	Number	13
Riprapping.....	Sq. Yds.	1,012

DISTRICT NO. 3
Headquarters—Laurel, Maryland

E. G. DUNCAN

District Engineer

ROLAND E. JONES

Assistant District Engineer

ANNE ARUNDEL COUNTY

F. S. REVELL, JR.

Resident Maintenance Engineer

CARROLL COUNTY

F. LAMOTTE SMITH

Resident Maintenance Engineer

HOWARD COUNTY

W. E. SAYERS

Resident Maintenance Engineer

MONTGOMERY COUNTY

DEWARREN H. REYNOLDS

Resident Maintenance Engineer

PERMITS

A. H. FRIESE

Road Inspector I



WASHINGTON-BALTIMORE FREEWAY UNDERPASS AT HAMMONDS FERRY ROAD

State Roads Commission of Maryland. Designed by J. E. Greiner Company, Consulting Engineers, May 1948

DISTRICT NO. 3

District No. 3 comprises Anne Arundel, Carroll, Howard and Montgomery Counties. The District Engineer is responsible for the construction and maintenance of highways, bridges, properties and other facilities of the State Roads Commission, located in the area defined. The total mileage of State Highways located in District No. 3 and the mileage in each county follows:

County	Mileage of State Highways
Anne Arundel.....	256.39 Miles
Carroll.....	207.87 “
Howard.....	149.95 “
Montgomery.....	330.88 “
Total.....	945.09 “

The period for the fiscal years of 1947 and 1948 has presented numerous and complex problems encountered in the effort to provide an increased post war traffic volume with safe and adequate highway facilities. The primary system of highways was substantially completed by 1930 and was built to accomodate traffic volumes and loads using the highways during that period. Numerous highways now in service can qualify by modern design standards to accomodate only fifty-percent of the traffic volume actually using them. This condition has resulted in numerous pavement failures and unsatisfactory side road maintenance affecting shoulders and side drains.

Highways located in the densely populated metropolitan areas adjacent to Baltimore and Washington have been transformed in a period of months from rural road to urban streets due to the extensive post-war housing program and are therefore subjected to the increased traffic volume and loads which such programs develop.

During this stage of development, which is not only confined to the metropolitan areas but to a lesser degree is general throughout the entire district, it has been practically impossible to extend preventative maintenance operations. The unavailability of equipment parts, labor forces and the sub-standard highways serving numerous areas, has required practically every maintenance operation to be an emergency procedure in order to keep the highways serviceable.

Other problems concern the encroachment on and the use of the State Right of Ways by various utilities and the control of adequate ingress and egress from the highways to and from improved abutting properties. These problems require constant inspection and the processing of hundreds of permits.

The unusual work load has therefore been performed by an organization which has been understaffed and lacks the necessary complement of equipment. This

was caused by war and post-war conditions affecting the general economy and could not be controlled. However, with the State of Maryland committed to a new pro-



BRIDGE OVER STONY CREEK ON FORT SMALLWOOD ROAD, NEAR RIVERA BEACH, ANNE ARUNDEL COUNTY. UNDER CONSTRUCTION JUNE 30, 1948



BRIDGE OVER SPA CREEK ON ANNAPOLIS-EASTPORT ROAD, ANNE ARUNDEL COUNTY. COMPLETED JANUARY 23, 1948

gram for the rehabilitation of sub-standard highways and construction of new regional highways, the highway picture is changing fast.

Evidence of this program is rapidly becoming apparent in the considerable mileage of narrow road pavements which have been and are now being widened to

standard design widths and resurfaced with high type pavements. Also, at critical locations where sound engineering judgment and economy warrant, grade and alinement revisions are being made in order to conform to desirable design standards.

The program which proposes the construction of high type dual highways is being planned and contracts let for construction. Projects in this program which will be located in District No. 3 include sections of the extension of U.S. Route 140—Reisterstown to Westminster and relocation of U.S. Route 40, Baltimore to Frederick. Other major projects located in District 3, will include those highways to be rebuilt to serve the Baltimore, Annapolis, Washington triangle. The accomplishment of a program of such magnitude requires that the present district engineering organization must be expanded in order to efficiently inspect and supervise the construction phase. The maintenance organization must necessarily be reorganized and expanded to effect the high order of maintenance required for Maryland's investment in new high type highways. The organization of District No. 3 is endeavoring to make a worthy contribution to the successful accomplishment of the new highway program in order that Maryland may again attain its high position in highway development.

The following presents the activity and accomplishments during the periods indicated:

MAINTENANCE

Expenditures during fiscal year July 1, 1946 to June 30, 1947.....	\$867,290.42
Expenditures during fiscal year July 1, 1947 to June 30, 1948.....	938,503.09

SURFACE TREATMENT

	Miles
Fiscal year July 1, 1946 to June 30, 1947—1,232,646 sq. yds.....	118.85
Fiscal year July 1, 1947 to June 30, 1948—1,496,871 " "	151.71

PERMITS PROCESSED

Fiscal year July 1, 1946 to June 30, 1947.....	1,281
Fiscal year July 1, 1947 to June 30, 1948	1,465

CONSTRUCTION

Anne Arundel County—July 1, 1946 to June 30, 1947:

	Miles
Laurel—Fort Meade Rd. Resurfacing—Asphaltic Concrete	4.02
Gov. Ritchie Highway (City Line to Furnace Branch) Resurfacing—Asphaltic Concrete	3.03
General's Highway (Glen Burnie—Severn Run Hill) Widening and Resurfacing with Asphaltic Concrete	5.00

July 1, 1947 to June 30, 1948:

	Miles
Revell Highway (Sandy Point to Richie Highway) (Under Construction) Addition of second lane—Concrete Pavement	4.22
Dorsey Road (Harmans to Glen Burnie) Widening and resurfacing with asphaltic concrete	4.30

Carroll County—July 1, 1946 to June 30, 1947:

		Miles
Bachmans Mill to Melrose	New location—Macadam Surface	1.45
Baust Church	New location—Macadam Surface	0.82
Hampstead-Mexico	New location—Macadam Surface	1.93
Sykesville Bridge over Patapasco River	Addition of pedestrian footway	
Copperville—Trevanion	New location—Macadam Surface	1.35

July 1, 1947 to June 30, 1948:

		Miles
Old Washington Road (South of Barrett twds. Hoods Mill)	New location—Macadam Surface	0.49

Howard County—July 1, 1947 to June 30, 1948:

		Miles
Edmondson Avenue (Rolling Road to Pine Orchard)	Addition of second lane—Concrete pavement	5.00
Edmondson Avenue Extended to Columbia Pike (Under Construction)	New location—Concrete Pavement (Including 2 bridges)	3.02
Ilchester Road—Bridge over Bonnie Branch	42 ft. Span Steel Beams and Concrete deck	

Montgomery County—July 1, 1946 to June 30, 1947:

		Miles
Georgia Avenue—Thru Silver Spring (Not including underpass)	Six land concrete pavement	0.65
East—West Highway (Georgia Ave. to Connecticut Avenue)	10 ft. macadam shoulders	2.40
Routes U.S. 29, Md. 194, Md. 195 and Md. 320	Widening and resurfacing with asphaltic concrete	6.51
Routes Md. 28 and U.S. 240	Widening and resurfacing with asphaltic concrete	7.75

Maintenance report for period July 1, 1947 to June 30, 1948 follows:

MAINTENANCE REPORT
July 1, 1947 to June 30, 1948
ROADWAY SURFACING

Type of Work	Unit of Charge	Rigid J-K	Semi-Rigid I	Non-Rigid F, G, H, I	Untreated D-E
Patching.....	Sq. Yds.	35,587	38,031	275,894	—
Blading—Dragging.....	Miles	—	—	—	—
Jacking—Asphalt.....	Sq. Yds.	—	—	—	—
Jacking—Cement Slurry.....	Sq. Yds.	—	—	—	—
Resurfacing—Non Bituminous.....	Sq. Yds.	—	—	—	—
Joint & Crack Filling.....	Gals.	19,104	—	250	—
Oiling—Bituminous.....	Sq. Yds.	—	205,017	615,969	—

SHOULDER MAINTENANCE

Type of Work	Unit of Charge	Bitum.	Stabilized	Grass	Earth
Patching.....	Sq. Yds.	92,490	35,691	—	6,186
Blading—Dragging.....	Miles	504	692	23	1,280
Sodding.....	Sq. Yds.	—	—	1,362	6,548
Mowing & Hand Cutting.....	Miles	—	4	2,081	—
Oiling—Bituminous.....	Sq. Yds.	32,594	9,526	—	—
Removal—Excess Material.....	Cu. Yds.	—	288	144	16,413

MAINTENANCE—BRIDGES & STRUCTURES

Type of Work	Unit of Charge	Repairs	Replacements	New Instal- lations
Sidewalk Concrete.....	Sq. Ft.	—	351	—
Bridge Repairs.....	Number	20	1	—
Pipe & Box Culverts.....	Number	20	17	16
Curb & Gutter.....	Lin. Ft.	778	933	73
Catch Basins.....	Number	27	—	8
Spillways, Etc.....	Number	8	—	4
Bituminous Rebutt.....	Lin. Ft.	—	—	1,390
Underdrain.....	Lin. Ft.	1,244	600	24

GUARD FENCE

Type of Work	Unit of Charge	Repairs	Replacements	New Instal- lations
New Fence.....	Lin. Ft.	439	150	146
Posts.....	Number	1,193	132	77
Cable.....	Lin. Ft.	190	160	—
Fittings.....	Number	89	21	6
Paint.....	Gals.	505	21	1

RIGHT-OF-WAY

Type of Work	Unit of Charge	MAINTENANCE	
		Roadside	Park Area
Mowing, Clearing & Grubbing.....	Miles	2,066	75
Beautification.....	Sq. Yds.	15,269	—
Resetting Fence.....	Lin. Ft.	73	—
Removal of Debris.....	Truck loads	1,156	76
Top-Soil.....	Cu. Yds.	659	—
Cutting Grass.....	Acres	73	665
Trimming Trees.....	Number	803	—
Moving Equipment.....	Units	174	—
	Miles	4,929	—

TRAFFIC SERVICE

Type of Work	Unit of Charge	Maintenance
Highway Markers.....	Number	8,913
Surface Guide Lines.....	Miles	832
Surface Marking, Schools, R.R., Etc.	Number	703
Snow Removal.....	Miles	35,835
Ice Treatment.....	Cu. Yds.	8,011
Traffic Lights.....	Number	—
Snow Fence.....	Lin. Ft.	651,743
Manual Traffic Count.....	Hours	892

DRAINAGE (CLEANING)

Type of Work	Unit of Charge	Maintenance
Ditching (New).....	Lin. Ft.	12,694
Cleaning—Ditches.....	Lin. Ft.	226,265
Cleaning—Pipe Culverts.....	Number	646
Cleaning—Box Culverts.....	Number	238
Cleaning—Bridges.....	Number	19
Cleaning—Catch Basins.....	Number	239
Cleaning—Misc. Structures.....	Number	160
Riprapping.....	Sq. Yds.	25

DISTRICT NO. 4
Headquarters—Towson, Maryland

D. P. CAMPBELL

District Engineer

JAMES N. HEILE

Assistant District Engineer

Construction

ENOCH C. CHANEY

Assistant District Engineer

Maintenance

BALTIMORE COUNTY

MILTON C. VOLKER

Junior Assistant Highway Engineer

HARFORD COUNTY

PERCY B. SHIPLEY

Junior Assistant Highway Engineer

PERMITS

ARRA CHANEY

Junior Assistant Highway Engineer



JOPPA ROAD-MD. ROUTE 148—EAST OF TOWSON. WIDENING AND RESURFACING WITH ASPHALTIC CONCRETE.
COMPLETED 1948

DISTRICT NO. 4

District No. 4 comprises Baltimore and Harford Counties with headquarters at Towson, Maryland. The construction and maintenance activities of the State Roads System are under the direction of the District Engineer. All county roads within this district are maintained by the respective counties and all construction work on the county road system is under the supervision of the county engineers of the respective counties.

MAINTENANCE

The mileage the State Roads Commission maintains in the district is as follows:

Baltimore County.....	296.91 miles
Harford County.....	267.50 miles
Total for District.....	<u>564.41 miles</u>

The maintenance operations during the past two years have improved over the previous war years, but are still handicapped by labor shortage and delays in securing equipment repairs and new equipment. This necessitated the use of prison labor in certain sections of the district.

Repairs to the Pulaski Highway, between Martin Boulevard and Havre de Grace were continued in the year 1946-47, requiring 11,300 square yards of concrete surface replacement, and asphalt pumping under the present pavement was continued both years, completing this operation over the entire highway, preparatory to its reconstruction.

The surface treatment schedule for the fiscal year 1946-47 covered 41.19 miles and 24.87 miles for the fiscal year 1947-48.

The York Road, U.S. Route No. 111, between Parkton and the Pennsylvania Line for a distance of 5.36 miles, was widened to 24 feet by State Roads Commission forces in the fall of 1946 and paved with 3½ inches of Specification 'B' under contract in the summer of 1947.

The Joppa Road, Md. Route No. 148, between Providence Road and Baynesville, was widened to 24 feet by State Roads Commission forces in the spring of 1948 and the surfacing with 3½ inches of Specification 'B' is under contract and was started in June 1948. This will be continued to the Harford Road, a distance of 4.00 miles.

Since the high-speed loader was received to work in conjunction with the auto patrols, approximately 100 miles of shoulders have been graded. During the past two years 15 miles of shoulders, 8 feet wide, have been stabilized. This will no doubt considerably cut down shoulder maintenance, as well as being a benefit to traffic.

In the fall 194,500 linear feet of snow fence is erected and dismantled in the spring. Due to the heavy traffic in the metropolitan area and the industrial plants, the ice treatment schedule during the winter months is an extensive operation. In February of 1947, because of an unusually heavy snow with severe drifting, it was necessary to spend approximately \$35,000.00 to clear the roads.

Old type wire guard rail is being replaced with cable type as fast as the posts can be obtained.

CONSTRUCTION

The following is a list of construction contracts by counties, giving the completion date, and those under construction at the end of the fiscal year 1948.

Baltimore County

Contract	Road	Location	Type	Completed
B-450-1-411 Cl-250-1-311	Westminster Pike U.S. Route 140	From Mt. Pleasant Sanatorium to Finksburg	Reinforced Concrete 4-land road	9- 4-47
B-450-6-411 Cl-250-4-311	Westminster Pike U.S. Route 140	Bridge over North Branch Patapsco River	Structural steel and reinforced concrete	9-29-47
B-500-2-481	Pulaski Highway U.S. Route 40	0.25 miles east of City Line to B & O Bridge at Golden Ring	Resurfaced with reinforced air entrained concrete	7- 7-47
B-561-411	York Road U.S. Route 111	Parkton to Penna. Line	Resurfaced, Specification "B"	10-16-47
B-562-411	York Road U.S. Route 111	Thru Towson	9 inch Concrete	10-31-47
B-564-411	North Point Rd. Sparrows Pt. Rd. Md. Route 151	Wise Avenue to Sparrows Point	Resurfaced, Specification "B"	12-23-47
B-539-411	Belair Road U.S. Route 1	at Overlea	Sidewalks & Drainage	10-30-47
B-579-1-415	Pulaski Highway U.S. Route 40	B & O R.R. to Cowenton	Resurfacing with Air entrained Concrete	Under Construction
B-572-1-415	Joppa Road Md. Route 148	Towson to Carney	Resurfacing with Specification "B"	Under Construction
B-392-2-415	Wilkins Ave. Ext.	P.R.R. Bridge at Wilkins Ave. to Winans on B & W Blvd.	Reinforced air entrained concrete	Under Construction
B-470-2-450	Butler Road	Thru Glyndon	Macadam	Under Construction
B-470-3-450	Bridge over Western Md. R.R. at Glyndon	Butler Road	Conc. slab bridge supported on stone masonry substructure	Under Construction
B-579-2-415 H-314-4-415	Pulaski Highway U.S. Route 40	Cowenton to Magnolia	Resurfacing with reinforced air entrained concrete	Under Construction

Harford County

Contract	Road	Location	Type	Completed
H-309-411 Ce-306-211	Pulaski Highway U.S. Route 40	Aberdeen to Race Track Br. Principio to Foy's Hill Elkton to Dela- ware Line	Resurfaced with Specification "B"	4-23-48
H-315-415	Old Philadelphia Road Md. Route 7 Pulaski Highway U.S. Route 40	Race Track Bridge to Havre de Grace	Resurfacing with Specification "B"	Under Con- struc- tion
H-314-2-415	Pulaski Highway U.S. Route 40	Magnolia to Bush	Resurfacing with Air Entrained Concrete	Under Con- struc- tion
H-314-3-415	Pulaski Highway U.S. Route 40	Bush to Aberdeen	Resurfacing with Reinforced Air Entrained Con- crete & Specifi- cation "B"	Under Con- struc- tion

Maintenance report for period July 1, 1947 to June 30, 1948 follows:

MAINTENANCE REPORT

July 1, 1947 to June 30, 1948

ROADWAY SURFACING

Type of Work	Unit of Charge	Rigid J-K	Semi-Rigid I	Non-Rigid F, G, H, I	Untreated D-E
Patching.....	Sq. Yds.	48,166	17,812	110,921	—
Blading—Dragging.....	Miles	—	—	—	—
Jacking—Asphalt.....	Sq. Yds.	479,120	—	—	—
Jacking—Cement Slurry.....	Sq. Yds.	—	—	—	—
Resurfacing—Non Bituminous.....	Sq. Yds.	7,032	—	—	—
Joint & Crack Filling.....	Gals.	15,298	—	—	—
Oiling—Bituminous.....	Sq. Yds.	14,788	58,872	226,161	—

SHOULDER MAINTENANCE

Type of Work	Unit of Charge	Bitum.	Stabilized	Grass	Earth
Patching.....	Sq. Yds.	28,926	52,347	200	1,266
Blading—Dragging.....	Miles	—	979	273	—
Sodding.....	Sq. Yds.	—	—	800	—
Mowing & Hand Cutting.....	Miles	—	—	2,349	—
Oiling—Bituminous.....	Sq. Yds.	201,318	20,367	—	—
Removal—Excess Material.....	Cu. Yds.	—	28	21,139	13,061

MAINTENANCE—BRIDGES & STRUCTURES

Type of Work	Unit of Charge	Repairs	Replacements	New Installations
Bridge Repairs.....	Number	16	28	—
Pipe & Box Culverts.....	Number	2	4	40
Curb & Gutter.....	Lin. Ft.	398	1,168	457
Catch Basins.....	Number	6	3	16
Spillways, Etc.....	Number	1	—	5
Bituminous Rebutt.....	Lin. Ft.	—	—	100
Underdrain.....	Lin. Ft.	80	75	18,228

GUARD FENCE

Type of Work	Unit of Charge	Repairs	Replacements	New Installations
New Fence.....	Lin. Ft.	3,465	790	4,112
Posts.....	Number	129	1,071	343
Cable.....	Lin. Ft.	500	3,475	5,272
Fittings.....	Number	1	334	379
Paint.....	Gals.	352	173	32

RIGHT-OF-WAY

Type of Work	Unit of Charge	MAINTENANCE	
		Roadside	Park Area
Mowing, Clearing & Grubbing.....	Miles	900	11
Beautification.....	Sq. Yds.	—	2,425
Resetting Fence.....	Lin. Ft.	1,780	—
Removal of Debris.....	Truck Loads	859	30
Top-Soil.....	Cu. Yds.	140	467
Cutting Grass.....	Acres	—	1,175
Trimming Trees.....	Number	592	—
Moving Equipment.....	Units	128	—
	Miles	7,694	—
Removal of Trees.....	Number	48	—
Widening & Grading.....	Cu. Yds.	1,590	—
Sidewalk Repairs.....	Lin. Ft.	99	—

TRAFFIC SERVICE

Type of Work	Unit of Charge	Maintenance
Highway Markers.....	Number	12,655
Surface Guide Lines.....	Miles	56
Surface Marking, Schools, R.R., Etc.....	Number	337
Snow Removal.....	Miles	4,579
Ice Treatment.....	Cu. Yds.	5,145
Traffic lights.....	Number	17
Snow Fence.....	Lin. Ft.	346,325
Manual Traffic Count.....	Hours	1,830

DRAINAGE (CLEANING)

Type of Work	Unit of Charge	Maintenance
Ditching (New).....	Lin. Ft.	54,182
Cleaning—Ditches.....	Lin. Ft.	238,401
Cleaning—Pipe Culverts.....	Number	988
Cleaning—Box Culverts.....	Number	26
Cleaning—Bridges.....	Number	137
Cleaning—Catch Basins.....	Number	667
Cleaning—Misc. Structures.....	Number	—
Riprapping.....	Sq. Yds.	435
Cleaning Curb & Gutter.....	Lin. Ft.	129,227
Underdrain.....	Lin. Ft.	5,000

DISTRICT NO. 5
Headquarters—Upper Marlboro, Maryland

JOSEPH CHANEY

District Engineer

THOM W. HALL

Assistant District Engineer

Construction

KENNETH O. WEBB

Assistant District Engineer

Maintenance

CALVERT COUNTY

A. M. NOLL

Resident Maintenance Engineer

CHARLES COUNTY

W. A. FOWKE

Resident Maintenance Engineer

PRINCE GEORGE'S COUNTY

J. P. SMITH

Junior Assistant Highway Engineer

ST. MARY'S COUNTY

M. C. THOMPSON

Resident Maintenance Engineer

Work also was started in widening the Baltimore-Washington Boulevard, U.S. Route 1 through College Park, and resurfacing it with four inches of bituminous concrete from Bladensburg to Washington, and also along Rhode Island Avenue.

A much needed improvement to Crystal Springs Avenue, between the Marlboro Pike, Md. Route 4, and Central Avenue, Md. Route 214, was also started.

Along Montgomery Street in Laurel, Md. Route 198, for a distance of one mile, the existing surface was widened to 30 feet and bituminous rebuts were built.

General maintenance was carried on, and in addition, 52.15 miles of roads were retreated with bituminous material and covered with adequate cover material, consisting of stone, slag and gravel.

County Roads, July 1, 1946—February 1947

Besides general maintenance, during this period, 50.00 miles of roads were retreated with bituminous material, and 4.35 miles were widened to 30 feet and surfaced with gravel 18 feet wide.

Also one 18-foot span timber bridge was constructed on the Aquasco-Beantown Road, and a 14-foot span bridge on the Jerrico Park Road.

ST. MARY'S COUNTY

State Roads

With funds provided by the Board of Public Works, and under the supervision of this District, a timber bulkhead, 285 feet in length, with necessary earth backfill, was constructed in the rear of the St. Mary's Female Seminary at St. Mary's City. Also with funds from the Board of Public Works, riprap, composed of 550 tons of large stone, was placed along the southwest shore of St. Clements Island, to protect the monument that was erected in 1934 to commemorate the first landing of the first settlers in Maryland.

Retreatment of 52.1 miles of State roads was done, using bituminous material and mineral aggregate for cover, beside general maintenance.

One mile of the Glebe Road, Md. Route 471, was badly damaged by heavy truck traffic, and was scarified, six inches of gravel added, and stabilized with bituminous material.

County Roads

Besides general maintenance, 4.91 miles of road were resurfaced with six inches of gravel, 18 feet in width. In order to give traffic a dust-proof road, 24 miles were given the initial treatment of bituminous material, and 25.33 miles were retreated.

The following is a list of the work accomplished by counties during fiscal year, July 1, 1947 to June 30, 1948:

CALVERT COUNTY

State Roads

Md. Route 416, the Southern Maryland Boulevard between Lyons Creek and Sunderland, 8.4 miles, was widened to 22 feet by prison labor, and then under con-

tract, resurfaced with two inches of bituminous concrete. State forces, along a section of this road, for a distance of 1.5 miles, between Dunkirk and the Chesapeake Beach Road, widened the existing width highway from 26 feet to 40 feet.

Using State forces, a treated timber bulkhead, 160 feet long, was added to the existing bulkhead at Solomons Island to further protect the road at that point.

Along the Bayside Road, Md. Route 261, for 1.5 miles from Chesapeake Beach to Randle Cliffs, the road was scarified, gravel added, and stabilized to a depth of four inches with bituminous material.

A total of 14.39 miles were retreated with bituminous material and adequate mineral aggregate.

County Roads

Normal general maintenance was carried on, and 5.0 miles were widened to 24 feet and surfaced with 16 feet of gravel. Initial bituminous surface treatment was done on 7.7 miles, and 1.0 mile was retreated.

CHARLES COUNTY

State Roads

A section of the Chicamuxen Road, near Riverside, 3.379 miles in length, started in fiscal year 1947, is still under construction, with completion schedule for the fall of 1948. This is the final link in Route 563.

Along U.S. Route 301, between Mattawoman Swamp and Lyons Corner, 8.2 miles were widened to 24 feet and covered with two inches of bituminous concrete, and one curve modified to make it conform to modern standards.

Along with general maintenance, 40.3 miles were retreated with bituminous material and adequate cover material.

County Roads

Besides general maintenance, 8.31 miles of roads were retreated with bituminous material and mineral aggregate. In addition, 5.15 miles of roads were widened to 30 feet and surfaced with 18 feet gravel.

PRINCE GEORGE'S COUNTY

State Roads

The resurfacing of the Baltimore-Washington Boulevard from College Park to the D. C. Line was completed, also the widening and resurfacing of Crystal Springs Avenue. The latter was a needed improvement, as the old road was narrow with a very high crown. Curb and gutter was constructed along the steep hills to take care of storm water.

The Defense Highway, U.S. Route 50, from Bladensburg to Crain Highway, 14.0 miles, was resurfaced with four inches of bituminous concrete, after being widened to 24 feet.

The Crain Highway, U.S. Route 301, from Priest Bridge through Marlboro, 13.4 miles, was also resurfaced.

Along the Marlboro Pike, Md. Route 4, from Andrews Field to Walker Mill Road, 3.3 miles have been widened to 24 feet and resurfaced with two inches of bituminous concrete, and two curves in this section were modified.

Along University Lane, Md. Route 193, from Baltimore-Washington Boulevard to Browns Corner, 3.10 miles were widened to 24 feet and resurfaced with two inches of bituminous concrete.

On Central Avenue near the Anne Arundel County Line, a new culvert was built to replace one of inadequate size. In order to relieve a traffic bottleneck, the intersection of the Crain Highway and Central Avenue was widened to 40 feet to allow four lanes of traffic on Central Avenue at this point.

Under supervision of District forces, but paid for jointly by the County and Federal Government, or by the County alone, the following roads were constructed:

Rosaryville—Woodyard Road.....	2.7	miles
Wheeler Road.....	0.9	“
Dr. Fox Road.....	0.25	“
Telegraph Road.....	1.0	“
Melwood—Woodyard Road.....	1.4	“

Under maintenance, 55.11 miles were retreated with bituminous material. Channelization of the intersection of University Lane and New Hampshire Avenue was done to relieve traffic at this point. The maintenance forces also assisted the Traffic Division in the installation of numerous traffic lights.

ST. MARY'S COUNTY

State Roads

A 2.3 mile section of the road from Leonardtown toward Hollywood has been rebuilt to modern standards and surfaced with bituminous concrete. Under construction is a new culvert on the Valley Lee Road to replace one that was washed out in a “flash flood”.

State Roads forces improved one-half mile of the Piney Point Road by resurfacing with gravel and stabilizing with bituminous material.

At Dukes Corner in Leonardtown, the intersection was widened to 40 feet to relieve a bottleneck.

Surface Treatment with bituminous material was done on 49.61 miles of road.

County Roads

Normal general maintenance work was carried on, and 6.3 miles were resurfaced with gravel 18 feet wide.

Initial bituminous treatment was given to 6.5 miles of roads and 4.8 miles were retreated.

Maintenance report for period July 1, 1947 to June 30, 1948 follows:

MAINTENANCE REPORT
July 1, 1947 to June 30, 1948
ROADWAY SURFACING

Type of Work	Unit of Charge	Rigid J-K	Semi-Rigid I	Non-Rigid F, G, H, I	Untreated D-E
Patching.....	Sq. Yds.	20,899	78,344	270,897	23,823
Blading—Dragging.....	Miles	—	—	96	103
Jacking—Asphalt.....	Sq. Yds.	—	—	—	—
Jacking—Cement Slurry.....	Sq. Yds.	—	—	—	—
Resurfacing—Non Bituminous.....	Sq. Yds.	—	—	31,510	103,703
Joint & Crack Filling.....	Gals.	16,215	14,015	—	—
Oiling—Bituminous.....	Sq. Yds.	—	—	1,372,343	34,001

SHOULDER MAINTENANCE

Type of Work	Unit of Charge	Bitum.	Stabilized	Grass	Earth
Patching.....	Sq. Yds.	82,913	9,020	423	241,789
Blading—Dragging.....	Miles	62	786	—	3,690
Sodding.....	Sq. Yds.	—	—	—	120
Mowing & Hand Cutting.....	Miles	—	886	549	139
Oiling—Bituminous.....	Sq. Yds.	500	3,906	—	1,619
Removal—Excess Material.....	Cu. Yds.	91	1,748	63	22,681

MAINTENANCE—BRIDGES & STRUCTURES

Type of Work	Unit of Charge	Repairs	Replacements	New Instal- lations
Bridge Repairs.....	Number	2	—	—
Pipe & Box Culverts.....	Number	6	1	14
Curb & Gutter.....	Lin. Ft.	—	—	—
Catch Basins.....	Number	11	—	6
Spillways, Etc.....	Number	49	—	—
Bituminous Rebutt.....	Lin. Ft.	26	338	1,041
Underdrain.....	Lin. Ft.	—	—	3,427

GUARD FENCE

Type of Work	Unit of Charge	Repairs	Replacements	New Instal- lations
New Fence.....	Lin. Ft.	680	—	—
Posts.....	Number	740	494	21
Cable.....	Lin. Ft.	27,881	4,979	—
Fittings.....	Number	765	586	—
Paint.....	Gals.	96	—	—

RIGHT-OF-WAY

Type of Work	Unit of Charge	MAINTENANCE	
		Roadside	Park Area
Mowing, Clearing & Grubbing.....	Miles	1,404	—
Beautification.....	Sq. Yds.	—	—
Resetting Fence.....	Lin. Ft.	6,635	—
Removal of Debris.....	Truck Loads	457	—
Top-Soil.....	Cu. Yds.	—	—
Cutting Grass.....	Acres	—	—
Trimming Trees.....	Number	4	—
Moving Equipment.....	Units	237	—
Trees Removed.....	Miles	9,505	—
	Number	7	—

TRAFFIC SERVICE

Type of Work	Unit of Charge	Maintenance
Ice Treatment—Plant to Shop	Cu. Yds.	2,376
High Water	Hrs.	755
Highway Markers	Number	7,901
Surface Guide Lines	Miles	780
Surface Marking, Schools, R.R., Etc.	Number	195
Snow Removal	Miles	3,929
Ice Treatment	Cu. Yds.	2,500
Traffic Lights	Number	4
Snow Fence	Lin. Ft.	171,323
Manual Traffic Count	Hours	799

DRAINAGE (CLEANING)

Type of Work	Unit of Charge	Maintenance
Ditching (New)	Lin. Ft.	47,640
Cleaning—Ditches	Lin. Ft.	757,700
Cleaning—Pipe Culverts	Number	2,314
Cleaning—Box Culverts	Number	123
Cleaning—Bridges	Number	29
Cleaning—Catch Basins	Number	336
Cleaning—Misc. Structures	Number	—
Riprapping	Sq. Yds.	199
Install New Pipe	Lin. Ft.	98
New Bulk Head—Retaining Wall	Lin. Ft.	160
		Cresoted Timber

DISTRICT NO. 6
Headquarters—Cumberland, Maryland

G. BATES CHAIRES

District Engineer

J. CARTER SHRYOCK

Assistant District Engineer

Construction

R. E. L. PUTMAN

Assistant District Engineer

Maintenance

GARRETT COUNTY

HAROLD E. ROOK

Junior Assistant Highway Engineer

ALLEGANY COUNTY

GEORGE B. HALE

Resident Maintenance Engineer

WASHINGTON COUNTY

RALPH T. THAYER

Junior Assistant Highway Engineer

FREDERICK COUNTY

THOMAS G. MOHLER

Junior Assistant Highway Engineer



U.S. ROUTE ALT. 40 FREDERICK TO HAGERSTOWN. LOOKING WEST TOWARDS SOUTH MOUNTAIN, FROM A POINT EAST OF MYERSVILLE-WOLFVILLE RD. (MD. ROUTE 17)

DISTRICT NO. 6

District No. 6 comprises Garrett, Allegany, Washington and Frederick Counties. A summary of the construction and maintenance activities in this district by counties, for the fiscal years 1947 and 1948, follows:

GARRETT COUNTY

Construction

The improvement of 2.619 miles of the Swanton-Bittinger Road, with penetration macadam, was the only construction contract completed in this county during the last two fiscal years.

However, contracts were awarded for the following projects on which work was still in progress at the end of June 30, 1948:

Widening with concrete shoulders on both sides of present surfacing, U.S. Route 50, from the West Virginia line west of Redhouse to the West Virginia line at Gorman, a distance of 9.10 miles.

The reconstruction of U.S. Route 219 from Oakland northerly towards Keyser Ridge for a distance of 4.53 miles.

The completion of a gap on Md. Route 560 between Loch Lynn and Gorman, a distance of 2.495 miles.

The placing of a sidewalk along one side, painting, and gunite repairs to the Baltimore and Ohio bridge in the town of Oakland.

Gunite repairs to the bridge across the Baltimore and Ohio Railroad tracks at Altamont on the Deer Park-Kitzmiller Road.

Maintenance

Regular maintenance work was performed by the district forces. No labor shortage was experienced during the last two years, consequently, such work as cutting down and widening earth shoulders, and the placing of perforated pipe underdrain to take care of springs along numerous locations on the highways, was carried on efficiently.

One of the outstanding improvements completed was the placing of 1.60 miles of bituminous mixed-in-place surfacing, 18 feet wide, along U.S. Route 219, south of Oakland.

Another project which decidedly smoothed and strengthened the road was the placing of bituminous mixed-in-place surfacing, 24 feet wide, along U.S. Route 40, between Grantsville and Frostburg, for a distance of 6.93 miles.

Regular surface treatment was completed on 34.24 miles.

Construction

The Boonsboro-Sharpsburg-Shepherdstown Road, Md. Route 34, was covered for a length of 7.84 miles with a bituminous road mix surface course, which decidedly improved the riding quality and strengthened the surfacing along this section of road.

The Sandy Hook Bridge superstructure over the Potomac River, between Sandy Hook, Maryland, and Loudoun County, Virginia, was completed, and the bridge opened to traffic. The approaches to the Sandy Hook Bridge, a distance of 0.65 miles, were completed previously to the completion of the bridge proper.

The Hagerstown-Myersville Road was completed for a length of 8.63 miles, a part of this contract extending into Frederick County being the last section to be improved on the new location between Hagerstown and Frederick.

The Hollow Road, in the northwestern section of the county, for a distance of 1.249 miles, was completed.

A contract was near completion for the widening of 2.97 miles of Alternate U.S. Route 40 at the western extremity near Hagerstown. This work consisted of placing concrete shoulders on each side of the existing road.

Two contracts have been awarded for widening, removing several hilltops, and placing plant mix on U.S. Route 11, between Hagerstown and Williamsport, for a length of 4.375 miles; the widening being along the right-of-way formerly occupied by the Hagerstown-Williamsport trolley line.

Maintenance

There was no labor shortage in this county and due to the fact that prison labor was made available from the State Penal Farm at Breathedsville, the District Engineer was enabled to keep maintenance work on a high level. The abundance of this type of labor permitted extra work to be accomplished during the winter months, such as, cutting down and widening earth shoulders, improving drainage conditions and carrying on rather extensive brush cutting.

The regular surface treatment program involved the treating of 48.32 miles of roadway and shoulders.

The paint crew placed 189 miles of centerline striping and also took care of the regular sign maintenance throughout the county.

In order to conduct maintenance operations more efficiently and economically, it is recommended that a small garage capable of storing at least four trucks be erected in the county.

Snow Removal and Ice Treatment

In the mountainous sections of this county, during the past two years, 74 inches of snow fell. With the aid of prison labor, approximately 21 miles of snow fencing was erected to control the drifting of snow.

Due to the icy conditions of the roads it was necessary to purchase, stockpile and

spread approximately 2,200 tons of cinders and 226 tons of rock salt for the protection of motorists.

FREDERICK COUNTY

Construction

A contract for the rebuilding of a short section of U.S. Route 40, just east of Frederick, for a distance of 0.115 miles, was completed. This work was necessary in order to eliminate a flooding condition after heavy rains.

A contract for the placing of asphaltic concrete surface course on Patrick and Market Streets in the City of Frederick for a total length of 1.56 miles was completed. This work made a decided improvement on these streets.

A major project in this county was the construction of Alternate U.S. Route 40, between Frederick and Myersville Road, for a distance of 8.611 miles. This section, together with the section in Washington County, completed the highway from Frederick to Hagerstown.

A contract was awarded for the placing of asphaltic concrete surface course on U.S. Route 340, from Knoxville to the approaches of the Sandy Hook Bridge, a total length of 1.86 miles, a part of this improvement being in Washington County. It is expected to start work on this project very shortly.

A contract was awarded and it is expected to start work shortly on the placing of asphaltic concrete wearing course along U.S. Route 40, west of Frederick; on Patrick Street in Frederick; U.S. Route 15 and Md. Route 26, northeast of Frederick; and a section of U.S. Route 15 through the town of Thurmont. The total length of this contract is 8.22 miles.

Maintenance

The maintenance work in this county was kept up to its usual standard. No difficulty was experienced in securing necessary labor to carry on operations. In addition to the regular maintenance work, a considerable mileage of earth shoulders was cut down and widened, and brush along practically all of the roads in the county was cut.

In the towns of Thurmont, Walkersville and Myersville decided improvements were made by the placing of macadam shoulders, after the Town Authorities had constructed curb and gutters. It is expected that a considerable quantity of this work will be done in the future.

The regular surface treatment involved the treating of 52.96 miles of roadway surfacing.

The paint crew placed 289.06 miles of centerline striping and also maintained the highway signs and markers.

In order to make maintenance more effective and economical, a new building to accommodate office, garage, work shop, and storage sheds should be erected on the State owned lot in Frederick.

Small garages capable of storing three or four trucks should be located in several sections of the county. This will expedite maintenance work in the northern and southern parts of the county.

Snow Removal and Ice Treatment

The snow removal and ice treatment in this county is not as serious as it is in the western part of the district, but due to the large road mileage, it does present considerable work. The snow fall for the past two winter seasons amounted to 82 inches, and to control the drifting, 35 miles of snow fencing was placed during the fall and removed in the spring.

In the treatment of the icy surfacing during the two winter seasons, 3,135 cubic yards of cinders were purchased, stockpiled and spread. Also 105 tons of rock salt and 50 tons of calcium chloride were used for the same purpose.

Maintenance report for period July 1, 1947 to June 30, 1948 follows:

MAINTENANCE REPORT July 1, 1947 to June 30, 1948 ROADWAY SURFACING

Type of Work	Unit of Charge	Rigid J-K	Semi-Rigid I	Non-Rigid F, G, H, I	Untreated D-E
Patching.....	Sq. Yds.	29,126	1,156	132,929	5,095
Blading—Dragging.....	Miles	—	—	—	45
Jacking—Asphalt.....	Sq. Yds.	—	—	—	—
Jacking—Cement Slurry.....	Sq. Yds.	—	—	—	—
Resurfacing—Non Bituminous.....	Sq. Yds.	—	—	—	29,850
Joint & Crack Filling.....	Gals.	14,999	416	675	—
Oiling—Bituminous.....	Sq. Yds.	49,657	108,551	830,254	—

SHOULDER MAINTENANCE

Type of Work	Unit of Charge	Bitum.	Stabilized	Grass	Earth
Patching.....	Sq. Yds.	8,832	763	—	23,922
Blading—Dragging.....	Miles	—	8	8	1,194
Sodding.....	Sq. Yds.	—	—	—	—
Mowing & Hand Cutting.....	Miles	—	—	6,791	—
Oiling—Bituminous.....	Sq. Yds.	35,314	—	—	3
Removal—Excess Material.....	Cu. Yds.	—	—	—	10,050

MAINTENANCE—BRIDGES & STRUCTURES

Type of Work	Unit of Charge	Repairs	Replacements	New Instal- lations
Bridge Repairs.....	Number	57	—	—
Pipe & Box Culverts.....	Number	28	17	36
Curb & Gutter.....	Lin. Ft.	442	—	2
Catch Basins.....	Number	3	2	1
Spillways, Etc.....	Number	1	—	—
Bituminous Rebutt.....	Lin. Ft.	—	—	348
Underdrain.....	Lin. Ft.	116	138	1,663

GUARD FENCE

Type of Work	Unit of Charge	Repairs	Replacements	New Installations
New Fence.....	Lin. Ft.	5,970	1,050	460
Posts.....	Number	18	791	299
Cable.....	Lin. Ft.	433	1,044	942
Fittings.....	Number	1	633	251
Paint.....	Gals.	429	161	29

RIGHT-OF-WAY

Type of Work	Unit of Charge	MAINTENANCE	
		Roadside	Park Area
Mowing, Clearing & Grubbing.....	Miles	2,644	—
Beautification.....	Sq. Yds.	—	—
Resetting Fence.....	Lin. Ft.	3,930	—
Removal of Debris.....	Truck Loads	1,413	—
Top-Soil.....	Cu. Yds.	121	—
Cutting Grass.....	Acres	—	72
Trimming Trees.....	Number	351	—
Moving Equipment.....	Units	87	—
Removing Trees.....	Miles	5,236	—
Widening Cross Section.....	Number	13	—
	Cu. Yds.	6,931	—

TRAFFIC SERVICE

Type of Work	Unit of Charge	Maintenance
Ice Treatment—Salt.....	Tons	557
Highway Markers.....	Number	17,718
Surface Guide Lines.....	Miles	473
Surface Marking, Schools, R.R., Etc.....	Number	349
Snow Removal*.....	Miles	833.17
Ice Treatment—Cinders.....	Cu. Yds.	11,592
Traffic Lights.....	Number	—
Snow Fence { Erected.....	Lin. Ft.	502,324
Dismantled.....	Lin. Ft.	498,324
Manual Traffic Count.....	Hours	1,723

DRAINAGE (CLEANING)

Type of Work	Unit of Charge	Maintenance
Ditching (New).....	Lin. Ft.	6,113
Cleaning—Ditches.....	Lin. Ft.	336,299
Cleaning—Pipe Culverts.....	Number	3,397
Cleaning—Box Culverts.....	Number	45
Cleaning—Bridges.....	Number	13
Cleaning—Catch Basins.....	Number	176
Cleaning—Misc. Structures.....	Number	9
Riprapping.....	Sq. Yds.	35

* Total snowfall by Counties: Garrett Co. 68.50", Allegany Co. 51.45", Frederick Co. 46.0" Washington Co. 43.25".



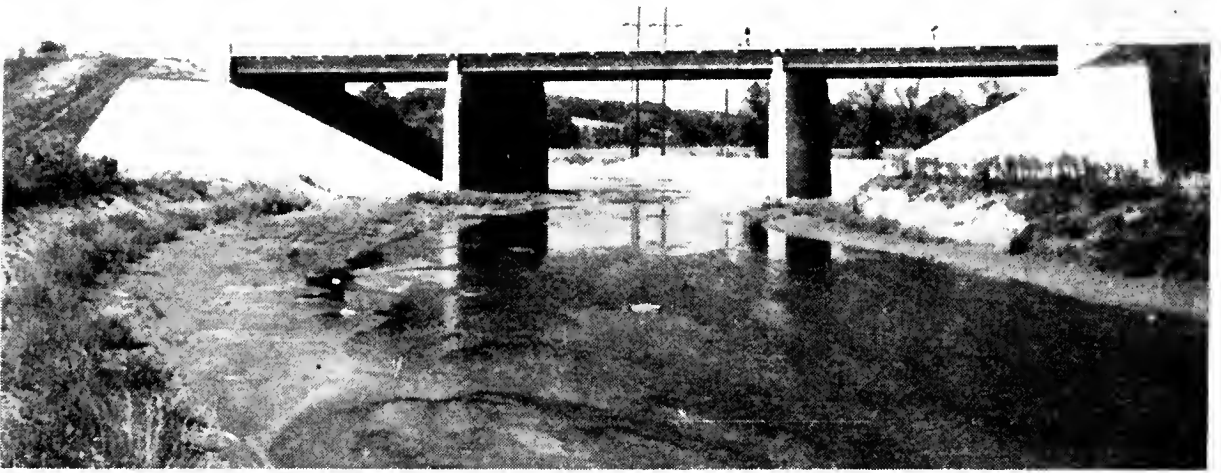
**PERSONNEL, PENSIONS, AND WORKMEN'S
COMPENSATION DIVISION**

W. PHELPS THOMAS

Director of Personnel

CARL E. WEINGARTEN

Workmen's Compensation Investigator



BRIDGE OVER NORTH BRANCH OF PATAPSCO RIVER, U.S. ROUTE 140, BALTIMORE-CARROLL COUNTY LINE. COMPLETED SEPTEMBER 29, 1947



BRIDGE OVER WESTERN MARYLAND RAILROAD TRACKS, MD. ROUTE 128 AT GLYNDON, BALTIMORE COUNTY. UNDER CONSTRUCTION JUNE 30, 1948

PERSONNEL, PENSIONS, AND WORKMEN'S COMPENSATION DIVISION

The increased work-load caused by an expanding personnel roster, both roads and ferry, and the consequent activity in the programs handled by this Division—personnel, pensions and workmen's compensation—became marked during the biennium. Work processes having already been simplified to the utmost, the services of a second stenographer were secured in February, 1948. This increase in total staff from three to four has helped give greater flexibility in expediting work of a daily, routine or intermittent nature; in processing work occurring on a monthly basis, such as leave reports and pension memberships; and in performing functions which occur semi-annually or annually: annual leave computations, the control and recording of service ratings, and the processing of Standard Salary Plan change tickets.

PERSONNEL

Trend of Employment—During the two-year period, the trend of employment has been a gradual increase with some acceleration at the end of the period. This may best be shown by taking the number of employees carried on the payrolls at stated intervals:

Date	Total Employees	Salaried	Per Diem	Ferry	Transportation Study
June-30-46	1,816	1,033	601	164	18
Dec.-31-46	1,927	1,093	647	185	2
June-30-47	1,970	1,114	634	222	..
Dec.-31-47	2,042	1,107	710	225	..
June-30-48	2,215	1,210	774	231	..

Filling Personnel Needs—Under the accelerated Roads Program, plans for a renewed personnel recruiting campaign were made in January, 1948. In February the immediate additional personnel needs were determined for the following six Engineering Divisions: Right of Way, Road Design, Bridge Design, Materials, Traffic, and Construction. There resulted a total of 212 vacancies within 18 classifications. A number of these vacancies (39 in all) were filled by promotion, i.e., by changes in classification which in turn created new vacancies in lower classifications. The greater number (108) were filled by the placement of applicants referred to us from the following sources: Roads personnel, State Employment Commission, and Maryland State Employment Service. The result obtained for 15 of these classifications is shown as of July 1, 1948.

Classification	Total Filled	Placements	Promotions
Civil Engineering Aide.....	5	..	5
Jr. Asst. Bridge Engineer I.....	1	..	1
Jr. Asst. Bridge Engineer II.....	4	3	1
Jr. Asst. Highway Engineer I.....	12	2	10
Jr. Asst. Highway Engineer II.....	9	7	2
Junior Draftsman I.....	6	3	3
Junior Draftsman II.....	7	7	..
Jr. Engineering Aide I.....	10	7	3
Jr. Engineering Aide II.....	19	19	..
Right of Way Examiner III.....	3	3	..
Road Inspector I.....	9	6	3
Road Inspector II.....	16	14	2
Road Inspector III.....	38	37	1
Sr. Asst. Highway Engineer II.....	1	..	1
Senior Draftsman II.....	7	..	7
	147	108	39

Processing Job Applicants—One important service of the Personnel Office is the registry, processing and referral of job applicants. Chief recruiting sources are the State Roads Commission itself, the State Employment Commission and the Maryland State Employment Service. An applicant meeting the requirements of a position for which a vacancy exists is given a preliminary interview and is then referred for employment interview to one or more Division heads. The table below includes only those applicants whose Roads applications were referred by the Personnel Director to Division heads located in Baltimore City during the first 9 months of 1948.

Month	Applications Taken and Referred	Number referred to	
		Engineering Divisions	Accounting & Others
January.....	13	10	3
February.....	38	25	13
March.....	88	78	10
April.....	57	50	7
May.....	49	37	12
June.....	108	102	6
July.....	19	18	1
August.....	58	54	4
September.....	37	32	5
	467	406	61

Specifications—Work on various State Employment job specifications continued throughout the period. Among those revised or created were:

- Foreman-Operator, Paint Machine
- Gasoline Shovel Operator
- Junior Engineering Aide I & II, grading effective 12-1-46
- Supervisor of Properties, SRC
- Electrician-Welder (Ferry)
- Machinist (Ferry)
- Toll Captain (Ferry)
- Ass't. Chief Engineer, SRC (Construction)
- Executive Ass't. to Chairman, SRC
- Office Engineer, SRC
- Principal Ass't. Chief Engineer, SRC

More recently, Professor J. Trueman Thompson of the Johns Hopkins University reviewed and revised the specifications for nineteen (19) classifications within the classes of:

Engineering Aides
 Draftsmen
 Road Inspectors
 Right of Way Examiners
 Highway Engineers
 Bridge Engineers

Extended Sick Leave—The number of requests for extended sick leave with pay from employees having ten or more years of continuous service with the State continues to be fairly constant. Since the fiscal year 1944 when the law became operative we find that the following number of extensions have been approved by the Board of Public Works:

Fiscal Year	No. of Cases	Average Duration
1944	3	3 months
1945	6	2 months
1946	4	3 months
1947	4	2 months
1948	4	3 months

PENSIONS

New Members—During the past two fiscal years our enrollment of new members in the Employees' Retirement has increased rapidly. In the fiscal year 1947, a total of 257 employees became members while in the fiscal year 1948, a total of 464 employees became members. During this last fiscal year new membership nearly doubled that of the preceding year.

TABLE SHOWING THE NUMBER OF EMPLOYEES ENROLLED IN THE EMPLOYEES' RETIREMENT SYSTEM DURING THE TWO-YEAR PERIOD

JULY 1, '46 TO JUNE 30, '47		JULY 1, '47 TO JUNE 30, '48	
Month	No. Enrolled	Month	No. Enrolled
July-1-46	14	July-1-47	33
August-1-46	9	August-1-47	18
September-1-46	13	September-1-47	101
October-1-46	26	October-1-47	36
November-1-46	11	November-1-47	43
December-1-46	10	December-1-47	33
January-1-47	17	January-1-48	15
February-1-47	26	February-1-48	25
March-1-47	23	March-1-48	11
April-1-47	26	April-1-48	50
May-1-47	81	May-1-48	42
June-1-47	1	June-1-48	54
Total.....	257	Total.....	464

New Rates—An amendment to the Retirement Law, effective July 1, 1947, permits voluntary service retirement at age 60 instead of age 65. All new members (i.e. those entering the System on or after the effective date) now contribute on the basis of the higher contribution rates. Each employee already enrolled in the

System was given the opportunity to increase his rate of contribution so as to allow him to receive a retirement allowance equal to approximately 1/70 of his average annual compensation for each year of service at age 60. By use of Election Form 3A, 647 of our employee-members voluntarily increased their rates before the deadline date of March 31, 1948.

SAFETY AND ACCIDENT PREVENTION

The Personnel Director has continued in charge of the promotion of safety for the employees of this Commission. Also he has participated in various activities sponsored by the Safety Engineering Club of Baltimore and the State Industrial Accident Commission. This includes service on the committees of the last two State-wide Safety-Health Conferences and on the committee charged with the editing of *safety codes* for Maryland.

In promoting safety, the Personnel Division aims to apply and to secure the application of three basic principles of accident prevention; namely:

1. The creation and maintenance of active interest
2. Fact finding
3. Corrective action based on the facts.

From reports and by investigation we seek the right answers to these questions:

How did the accident occur?

Why did the accident occur?

What can be done to prevent recurrence?

Thus one of the most important single functions in accident prevention is reporting the causes of accidents so that they may be removed. In our practice, the regular reports are supplemented by a covering-letter from the District Engineer or Division head giving his best opinion as to cause, whether avoidable or unavoidable, and stating the action taken to prevent recurrence. Very few accidents are really unavoidable—a fact that we are reminded of in the following definition: An unavoidable accident is “an inevitable occurrence, not to be foreseen and prevented by vigilance, care and attention and not occasioned or contributed to in any manner by the act or omission of the injured.”

In January, 1947, the State Medical Director resumed the pre-war policy of excluding from the unclassified service all laborers with hernia, except for light duty (B cards) and with waiver to membership in the Employees' Retirement System. In a related effort to prevent the occurrence of accidents and injuries caused by strain and unsafe lifting practices, the Personnel Office issued *safety posters* and printed *instructions* on correct lifting practice which were posted in all our garages and shops.

It has been well said that “the best safety device is an employee who thinks.” In December, 1947, the Personnel Director tried to promote this idea with the help of a little applied psychology. The District Engineers were asked to include the topic of safety and accident prevention at their staff and supervisory meetings. They were also told that the Personnel Office would welcome their ideas and suggestions in all matters related to accident prevention and safe work practice. This

effort has been amply repaid. Now we all know that achievement in the field of safety can come only through careful attention to detail: work planning, equipment, good housekeeping, supervision, teamwork, and the training of personnel.

One fatal accident occurred within the two-year period. Instant death befell a young laborer while working with a cinderling crew along icy roads in January, 1948. This accident, which was caused by a descending dump-truck bed, was investigated promptly by the Highway Equipment Superintendent and by the Personnel Director. It was learned that this man understood truck mechanism and had worked on trucks in the shop. Yet, under the emergency conditions prevailing and in his eagerness to correct a condition under the truck, he completely forgot or disregarded his past training and instructions. Because of the human-interest involved in this case and the lesson it holds for all of us, the eloquent letter written by the Resident Engineer to his foremen is reproduced below as "required reading":

TO ALL FOREMEN

"The tragic accident which has just taken place in..... County resulting in the death of one of our fellow workers, a splendid young man, should bring to the attention of each one of us more forcibly the fact that no one should ever attempt to go under a dump-truck bed when it is in a raised position without making absolutely sure that it is securely blocked so that it cannot come down if the valve is tripped or anything happens to the lifting mechanism. It should also be a self-imposed duty on each one of us to be our brother's keeper and instantly warn anyone we see about to make this mistake.

"The same thought and rule should apply to every different phase of our work. Only by our exercise, at all times, of the utmost care and diligence can we properly protect our lives and health and those of our associates.

"I request each Foreman to personally see that this letter is read by all under his supervision.

(signed)
Resident Engineer

Subsequently, in the follow-through phase of this case, the Personnel Director requested that each District Engineer cause to be posted over his signature or that of his Resident Engineer the following *safety rule* to be "observed and enforced under all conditions, both in the shop and in the field":

DO NOT WORK BETWEEN DUMP BODY AND FRAME
OF TRUCK WHEN IN RAISED POSITION UNTIL
(UNLESS) THE TRUCK BODY HAS BEEN SECURELY
BLOCKED IN A SAFE POSITION TO PREVENT FALLING.

WORKMEN'S COMPENSATION

The two tables included herein show the distribution of accidents and injuries arising out of and in the course of employment for two successive twelve-month

periods, within the six Districts and the various Divisions of the Commission. A decrease of approximately 5 per cent may be noted in the second of the grand totals of accidents—377 and 359, respectively.

During the same periods, there was a 3½ per cent reduction in the total number of “county cases” covered by the State Accident Fund and by insurance provided by two counties (Cecil and Kent)—totals 81 and 78, respectively.

Prison Labor accounted for 24 cases during these two twelve-month periods. However, the passage of Senate Bill No. 359, effective June 1, 1947, amended Article 89B of the Annotated Code of Maryland to read: “and all prisoners employed on roads under the provisions of this section, for the purposes of the Workmen’s Compensation Laws of this State shall be deemed employees of the institute from which they are assigned.” This “Convict Labor” amendment has greatly relieved this Commission of troublesome cases arising from the use of prison labor.

More claims for compensation were filed in the second half of the biennium (63 vs. 48) and more time was lost as a result of injuries (1,409 days vs. 1,055 days), as might be expected with an increased total personnel engaged in an accelerated program. Total expenditures declined from \$20,000 to \$17,000 approximately, and these costs are not excessive when one considers the diversified operations of this Commission. We should bear in mind, however, that these figures do not tell the whole story. In the opinion of competent authorities, the indirect costs of accidents are at least several times as great as the direct costs.

SUMMARY OF WORKMEN’S COMPENSATION CASES AND COSTS
July 1, 1946 to June 30, 1947

	Cases
STATE ROADS EMPLOYEES	
District No. 1.....	11
District No. 2.....	57
District No. 3.....	43
District No. 4.....	45
District No. 5.....	37
District No. 6.....	29
Division No. 11.....	1
Division No. 12.....	2
Division No. 13.....	8
Division No. 16.....	2
Division No. 18.....	3
Division No. 19.....	2
Division No. 20.....	9
Total Cases.....	267
COUNTY ROADS EMPLOYEES	
District No. 1.....	42
District No. 2.....	29
District No. 5.....	10
Total Cases.....	81
CHESAPEAKE BAY FERRY EMPLOYEES.....	11
PRISONER REPORTS.....	18
Grand Total.....	377

COMPROMISE CASES:

April 22, 1947—Division No. 18
 April 29, 1947, Mr. Albert Smith—Prisoner

STATE ROADS CLAIMS FILED AND TIME LOST:

Claims for Compensation filed July 1, 1946
 to June 30, 1947..... 48
 Days lost for claims received..... 1,055

EXPENDITURES:

Compensation Paid.....	\$11,806.19	
Medical Expenses Paid.....	4,804.54	
X-Rays Paid.....	480.00	
Hospital Bills Paid.....	1,540.74	
Court Costs and Attorneys' Fees Paid.....	1,539.45	
Second Injury Fund Paid.....	30.00	
Grand Total.....		\$20,200.92

SUMMARY OF WORKMEN'S COMPENSATION CASES AND COSTS
 July 1, 1947 to June 30, 1948

	Cases
STATE ROADS EMPLOYEES	
District No. 1.....	21
District No. 2.....	64
District No. 3.....	39
District No. 4.....	47
District No. 5.....	21
District No. 6.....	37
Division No. 12.....	4
Division No. 13.....	11
Division No. 14.....	1
Division No. 16.....	2
Division No. 18.....	1
Division No. 19.....	1
Division No. 20.....	12
Division No. 23.....	1
Total Cases.....	262
COUNTY ROADS EMPLOYEES	
District No. 1.....	28
District No. 2.....	37
District No. 5.....	13
Total Cases.....	78
CHESAPEAKE BAY FERRY EMPLOYEES.....	13
PRISONER REPORTS.....	6
Grand Total.....	359

FATAL CASE:

January 17, 1948, Mr. Wilbur O. Pearman—District No. 6

COMPROMISE CASE:

February 2, 1948, Mr. Charles H. Harris—Ferry System

STATE ROADS CLAIMS FILED AND TIME LOST:

Claims for Compensation filed July 1, 1947 to
 June 30, 1948..... 63
 Days lost for claims received..... 1,409

EXPENDITURES:	
Compensation Paid.....	\$10,249.00
Medical Expenses Paid.....	4,126.22
X-Rays Paid.....	547.50
Hospital Bills Paid.....	1,266.60
Funeral Expenses Paid.....	300.00
Court Costs and Attorneys' Fees Paid.....	523.45
Second Injury Fund Paid.....	130.00
Grand Total.....	\$17,142.77

LEGAL DEPARTMENT

ROBERT E. CLAPP, JR.

Special Assistant Attorney General

FREDERICK A. PUDERBAUGH

Special Attorney

ERNEST N. CORY, JR.

Special Attorney



OLD TUCKAHOE CREEK BRIDGE BETWEEN CAROLINE AND TALBOT COUNTIES.
CONSTRUCTION WORK IN PROGRESS ON NEW BRIDGE TO THE RIGHT



NEW TUCKAHOE CREEK BRIDGE BETWEEN CAROLINE AND TALBOT COUNTIES

LEGAL DEPARTMENT

YEAR 1946

The work of this office for the first seven months of the year 1946 was under the direction of K. Thomas Everngam, Esquire, until his resignation on August 1, 1946. Mr. Everngam had been appointed to the position of Special Assistant Attorney General for the State Roads Commission in the year 1943, subject to the return from army service of Robert E. Clapp, Jr., and upon whose return was most cooperative in advising as to the status of work in the office, and as to the many problems encountered.

During the early part of the year, Mr. Everngam was ill and absent for approximately nine weeks, during which time the burden of the many duties of the office devolved upon Frederick A. Puderbaugh, Esquire, Special Attorney for the State Roads Commission. Despite the handicap of increased work, Mr. Puderbaugh performed his duties in a most able manner, holding consultations with various department heads, district engineers and others in the State Roads Commission, as well as attending conferences, both in and out of the office, preparing condemnation suits and carrying on in general the work of the office.

According to the records, Mr. Everngam participated in the trial of many cases, in which the State Roads Commission was interested. Two particular cases may be noted, these being condemnation suits against the Finksburg Methodist Protestant Church and the Finksburg Cemetery. After suits were instituted numerous conferences were held both in Baltimore and Westminster by counsel for all parties, and a settlement finally effected. This settlement was arranged while Mr. Everngam was in office, and was most advantageous for had an adversary proceeding been required, a great deal of time and expense would have been involved.

When the present Special Assistant Attorney General for the State Roads Commission assumed office on August 1, 1946, the work of the legal department was found to be up to date and in excellent shape, and since that time operations have been carried on in the same manner, without in any way upsetting the office routine and procedure of the various departments. The members of the Commission, the various engineers, department heads and employees have been advised as to their problems, both orally and in writing, and where possible, this Department has tried to avoid the use of written opinions, particularly where an opinion by a predecessor covered the subject.

In addition to the foregoing, this office has participated in the trial of many cases before the State Industrial Accident Commission covering injuries to regular employees of the Commission as well as numerous cases of convicts injured while working on State roads.

With the end of the war and the beginning of new construction work, the number of agreements and contracts prepared or supervised by this office has vastly increased, and these have all been reviewed by the legal department.

Subsequent to the election of Governor Lane, in November, 1946, the Commission was instructed to bring its studies, relating to the Chesapeake Bay Bridge, up to date. Accordingly, a complete review of legislation, both State and Federal cases and opinions of the Attorney General, relating to the Chesapeake Bay Bridge has been made and the result of these studies has been submitted to the Governor in the form of a typewritten memorandum. The Special Assistant Attorney General also acted in cooperation with the Governor's Committee appointed to draft legislation covering platform pledges, with particular reference to the establishment of the new formula for the distribution of gasoline taxes to Baltimore City, the Counties and the Municipalities.

Under the supervision of this office 570 examinations were made by local attorneys at a total expenditure of \$15,287.50 during the year 1946. The work of sending out, advising with, and passing upon questions of title in connection with these rights of way matters are particularly under the direction of Mr. Frederick A. Puderbaugh, Special Attorney.

The following condemnation cases for the purpose of securing rights of way for the State Roads Commission were prepared and filed by this office during the year 1946, and have been tried and determined by verdict of a jury, or were settled out of Court, or pending, as noted:

Anne Arundel County

Walter E. Green and
Gertrude B. Green, his wife
Pending

Harry S. Allen and
Alice May Allen, his wife
Vinton Duval Cockey and
Mona Goldsborough Cockey, his wife
Pending

Vinton Duval Cockey and
Mona G. Cockey, his wife
Citizens National Bank of Laurel
Settled

Carroll County

John M. Simmons and
Olive M. Simmons, his wife
Pending

Trustees of Mt. Zion Congregation—
Methodist Protestant Church
Verdict

The Finksburg Cemetery Company
Verdict

Cecil County

George W. Spear, et al.
and Unknown Heirs
Pending

Alexander Staworosky and
Annie Staworosky, his wife
Pending

Elizabeth J. Stevens and
B. Frank Stevens, her husband
Settled

John Kutz and
Kate Kutz, his wife
Pending

George W. Green and
Leona Green, his wife
Pending

Stanley S. Stevens and
Mary E. Stevens, his wife
Pending

Winifred Schaefer Estate
Pending

Charles C. Bayard
Pending

Charles J. C. Rhudy
Pending

Prince George's County

Harley W. Leizear and
Marion Leizear, his wife
Pending

St. Mary's County
May H. Morgan
Verdict

Herbert E. Davis and
Grace C. Davis, his wife, et al.
Settled

Talbot County
Alexander Fountain Estate
Pending

Wicomico County
George W. Bishop and
Agnes M. Bishop, his wife
Verdict

YEAR 1947

The year 1947 brought a vast increase of work to the office of the Special Assistant Attorney General for the State Roads Commission. Governor Lane proposed a modernization of the entire highway system of the State with additional funds to be transferred from the State to the Counties for a modernization also of the County roads. The carrying out of this entailed a complete revision of the laws relating to the operation of the State Roads Commission and to the distribution of revenues derived from gasoline taxes, motor vehicle excise taxes, fines and forfeitures resulting from motor vehicle violations and other income of a like nature. A revision was also required of bridge legislation of the State in preparation for the construction of a crossing of the Chesapeake Bay. These changes were embodied in two bills, now Chapters 560 and 561 of the Acts of the General Assembly of Maryland of 1947, and on or about February 15, 1947, at the request of the Governor, the Special Assistant Attorney General was directed to remain in Annapolis for the balance of the session of the Legislature, for the purpose of explaining these two bills to the members, and of supervising any changes or amendments that might be required. Both bills were passed without substantial change, and in addition, during that session the Special Assistant Attorney General participated in the drafting of a bill increasing the excise tax imposed upon commercial motor vehicles, with a view to increasing the funds available to the State Roads Commission for road construction.

As a result of the above legislation, funds were made available to the Commission for a vastly increased program of road construction. This necessitated a great expansion of the personnel of the Commission, and because of the new legislation, necessitated numerous conferences relating to statutory interpretation.

To aid in the increased work of this office, an additional Special Attorney was authorized and on July 1, 1947, Mr. Ernest N. Cory, Jr. was appointed by the Attorney General to fill this position.

In the Fall of 1947, Governor Lane appointed a Highway Advisory Council to aid in the overall planning of a new road program by the State Roads Commission. The Special Assistant Attorney General was invited to attend the meetings of this Council as legal consultant, and has served on the sub-committee of the Council relating to rights of way. It is believed that a system has been worked out with the Right of Way Department whereby the obtention of the necessary interests in land can be expedited, and that these problems will in the future be materially lessened. Where it appears that condemnation may become necessary, appropriate petitions are drafted sufficiently in advance so that when it has been finally determined that

no purchase can be arranged with a property owner, condemnation proceedings may be promptly entered upon receiving instructions to do so from the Commission.

There has been an increasing demand for conferences between this office and the Commission, the Advisory Council and various Department heads in order to anticipate possible legal difficulties with respect to future construction and maintenance proposals. These conferences have avoided litigation involving the Commission to such an extent that last year the Commission was involved in the Courts only with respect to condemnation proceedings and to injury to employees resulting in claims under the Workmen's Compensation Law.

In addition to the above increased duties the normal work of the office has continued. This office participated in the trial of numerous condemnation cases and has rendered numerous written opinions relating to the Commission's problems. The questions involved have related not only to the new legislation but also to many other phases of the law, and when it is considered that approximately 2,050 persons are employed by the State Roads Commission, that it has the supervision, maintenance, construction and reconstruction of 4,526.05 miles of State Roads and 3,739.70 miles of County Roads, together with numerous bridges and the Chesapeake Bay Ferry System, the scope of the work of its legal department of three lawyers can well be realized.

The new construction program has entailed the execution of a vastly increased number of contracts, and these have all been reviewed. In addition the Commission proposed, during the year 1947, to eliminate the grade crossings in Baltimore County at Halethorpe and Arbutus, and the drafting of a contract between the Commission and the Pennsylvania Railroad for a contribution by the Railroad of a portion of the proposed construction contract was begun.

Another matter in which the Special Assistant Attorney General participated and which was of importance to the proposed program of road construction, was in connection with the crossing of the Chesapeake Bay. A contract was required with the engineering consultants who were to design and supervise the construction of the crossing, and after prolonged negotiations and numerous conferences between the Governor, the State Roads Commission, the Attorney General and the J. E. Greiner Company and its legal representatives, a mutually satisfactory contract was drafted and executed by the parties concerned.

Under the supervision of this office, 899 examinations were made by the local attorneys at a total expenditure of \$29,452.50 during the year 1947. The work of sending out, advising with and passing upon questions of title in connection with these rights of way matters are particularly under the direction of Mr. Frederick A. Puderbaugh, Special Attorney, assisted by Mr. Ernest N. Cory, Jr. This office for many years has made it a practice to have local attorneys in the various counties examine and pass upon the title to land, which it is desired to use for road purposes, before it is acquired. This plan has been found to work out to the mutual advantage of all parties concerned, and its continuance is recommended.

In conclusion, the following condemnation cases for the purpose of securing rights

of way for the State Roads Commission were prepared and filed by this office during the year 1947 and have been tried and determined by verdict of a jury, or were settled out of Court, or pending, as noted:

Anne Arundel County

Walter E. Green and
Gertrude B. Green, his wife
Pending

Harry S. Allen and
Alice M. Allen, his wife
Vinton Duval Cockey and
Mona Goldsborough Cockey, his wife
Pending

Carroll County

John M. Simmons and
Olive M. Simmons, his wife
Settled

Cecil County

George W. Spear, et al.
and unknown heirs,
Pending

Alexander Staworosky and
Annie Staworosky, his wife
Verdict

John Kutz and
Kate Kutz, his wife
Pending

George W. Green and
Leona Green, his wife
Pending

Stanley S. Stevens and
Mary E. Stevens, his wife
Pending

Winifred Schaefer Estate
Pending

Charles C. Bayard
Pending

Charles J. C. Rhudy
Settled

Brantwood Farms
Verdict

Union Memorial Hospital
a body corporate, residuary devisee of
Ellen H. Bayard, deceased, et al.
Pending

The Order of the Society of Divine
Savior
Pending

H. Boyns Crowgey and
Lottie S. Crowgey, his wife
Pending

Wilmer H. S. Bouchelle
Pending

Kent County

H. Clayton Johnson
Settled

Prince George's County

Harley W. Leizear and
Marion Leizear, his wife
Pending

Somerset County

Duncan Brothers
Pending

Fred C. Haislip and
Gertrude Haislip, his wife
Pending

Arthur W. Lankford and
Meta S. Lankford, his wife
Pending

Stanley E. Lankford and
Beatrice P. Lankford, his wife
Pending

Talbot County

Alexander Fountain Estate
Verdict

The Isla Corporation of Easton
Pending

Wicomico County

William Parks Young
Pending

ACCOUNTING DEPARTMENT

CARL L. WANNEN, *Comptroller*

WILLIAM A. CODD
Chief Auditor

MORRIS M. BRODSKY
Assistant Chief Auditor

SUPERVISORS - GENERAL

JAMES W. ROUNTREE, JR.

CHARLES I. NORRIS

JOSEPH E. GERICK

MORRIS P. MARSTON

SUPERVISORS - DEPARTMENTAL

JOSEPH T. BUNN

HENRY L. COMBS

LESTER S. DISNEY

IRVING TAYLOR

FREDERICK A. ROSEMERE

BENJAMIN M. HAUGHEY



RESURFACING WITH ASPHALTIC CONCRETE U.S. ROUTE 213. SALISBURY TO
OCEAN CITY ROAD

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nance Fund is the Sign Permit Revenue Fund, an auxiliary Fund restricted by law to roadside beautification. The revenue of this auxiliary Fund is derived from the issuance of permits for the erection and maintenance of advertising signs.

The cash account for the fiscal years reported is summarized as follows:

	Fiscal Year Ended	
	..... June 30, .....	.....
	1948	1947
Balance at beginning of year	\$2,744,454.34	\$ 14,091.72
Receipts:		
Maintenance Fund:		
Revenues	\$4,277,708.02	\$6,309,553.34
Non-revenues: recovery of expenditures	13,293.62	12,653.72
Sign Permit Revenue Fund—revenues	4,687.67	10,481.25
Total receipts	\$4,295,689.31	\$6,332,688.31
Total funds available	\$7,040,143.65	\$6,346,780.03
Disbursements:		
Maintenance costs	\$4,190,396.26	\$3,333,444.07
Purchases of service-facility fixed assets	658,511.88	252,824.25
Expenditures subsequently recovered	13,293.62	12,653.72
Sign Permit Revenue Fund—personal services and expenses	7,436.34	3,403.65
Total disbursements	\$4,869,638.10	\$3,602,325.69
Balance at end of year	<u>\$2,170,505.55</u>	<u>\$2,744,454.34</u>

The Maintenance Fund revenues of \$4,277,708.02 in the 1948 fiscal year include \$4,193,568.98, being fifty per cent share of the Motor Vehicle Revenue Fund, and \$84,139.04 of miscellaneous income. The 1947 fiscal year revenue of \$6,309,553.34 is a transfer of funds from the General Construction and Operating Fund to provide the Maintenance Fund with the means to finance the maintenance of State roads and to purchase service-facility fixed assets.

The Maintenance Fund expenditures, including those relating to the Sign Permit Revenue Fund, are summarized in Exhibits G and H of this report and detailed maintenance costs, by districts, are reflected in supporting schedules to those Exhibits.

At January 1, 1948, the road miles of the State System totaled 4,521 shown by districts and counties as follows:

District No. 1:			
Dorchester County		152.42	
Somerset County		104.47	
Wicomico County		146.44	
Worcester County		164.60	567.93
District No. 2:			
Caroline County		141.66	
Cecil County		193.52	
Kent County		147.81	
Queen Anne's County		151.70	
Talbot County		116.96	751.65

District No. 3:			
Anne Arundel County.....	256.39		
Carroll County.....	207.87		
Howard County.....	149.95		
Montgomery County.....	330.88		945.09
		<hr/>	
District No. 4:			
Baltimore County.....	293.05		
Harford County.....	265.41		558.46
		<hr/>	
District No. 5:			
Calvert County.....	122.53		
Charles County.....	268.46		
Prince George's County.....	271.90		
St. Mary's County.....	210.29		873.18
		<hr/>	
District No. 6:			
Allegany County.....	154.24		
Frederick County.....	298.99		
Garrett County.....	145.19		
Washington County.....	226.27		824.69
		<hr/>	
Total road miles.....			<u>4,521.00</u>

At the close of the 1948 fiscal year a balance of \$2,170,505.55 remained available in the Maintenance Fund. It is contemplated that this forwarded amount, plus the 1949 fiscal year estimated revenues of \$4,536,866.00 dedicated to maintenance purposes, will be fully utilized for maintenance programs, including outlays for fixed assets, in the 1949 fiscal year.

**COUNTIES AND MUNICIPALITIES TAX
REVENUES ALLOCATION FUND**

Beginning July 1, 1947, the share of the Gasoline Tax and Motor Vehicle Revenue Funds allocated to counties and municipalities has been cleared through this Fund.

A summary of the cash receipts and disbursements for the fiscal year ended June 30, 1948, follows:

Receipts:			
Twenty per cent share of the Gasoline Tax Fund.....	\$3,764,563.64		
Twenty per cent share of the Motor Vehicle Revenue Fund.....		1,677,427.56	\$5,441,991.20
		<hr/>	
Disbursements:			
Remittances to municipalities.....	\$ 311,615.79		
Remittances to counties.....	2,708,040.85		
Transfers to County Maintenance Funds.....	1,702,478.06		
Transfers to County Construction Funds.....	268,980.89		4,991,115.59
		<hr/>	
Balance, June 30, 1948:			
Due to municipalities.....	\$ 105,250.61		
Due to counties.....	345,625.00		\$ 450,875.61
		<hr/>	<hr/>

Schedule 1b of Exhibit B shows the basis for allocation of revenues as to county shares and total shares of municipalities within each county. Schedules 1 and 1a

of Exhibit B reflect, by counties and municipalities, the transactions of this Fund for the fiscal year ended June 30, 1948.

Shares allocated to municipalities are now generally remitted at the end of each calendar year quarter. Shares allocated to counties are available monthly to those counties performing their own road work. Cash transfers are made to County Maintenance Funds and County Construction Funds to provide the State Roads Commission with the means for financing certain county road maintenance and construction.

COUNTY MAINTENANCE FUNDS

County Maintenance Funds is a collective term for a group of subsidiary fund accounts included on the books of the Commission. These accounts are devoted primarily to county road maintenance, and the receipts recorded therein are administered by the Commission. A separate Fund is maintained for each county for whose account funds have been received or expended.

The greater portion of the receipts during the 1948 fiscal year represented transfers of cash from the Counties and Municipalities Tax Revenues Allocation Fund to the accounts of those counties for whom the State Roads Commission performed work. Prior to July 1, 1947, the receipts included the counties' seventy per cent share of the proceeds of the Lateral Road (1½ Cent) Gasoline Tax Fund.

The cash receipts and disbursements for the fiscal year ended June 30, 1948, are summarized as follows:

Balance, July 1, 1947.....		\$ 228,382.06
Receipts:		
Remittances by counties.....	\$ 136,139.38	
Transfers from Counties and Municipalities Tax Revenues Allocation Fund.....	1,702,478.06	
Rental of county equipment, etc.....	5,427.49	1,844,044.93
Total funds available.....		\$2,072,426.99
Disbursements:		
Maintenance costs—net.....	\$1,545,281.09	
Other costs—net.....	15,527.38	
Remittances to counties.....	30,148.97	
Transfers to County Construction Funds.....	314,214.28	
Expenditures subject to reimbursement.....	2,293.49	1,907,465.21
Balance, June 30, 1948.....		\$ 164,961.78

A summary of transactions pertaining to the individual counties is shown in Schedule 2 of Exhibit B; the cash balance at June 30, 1948, of \$164,961.78, consisted of available balances totaling \$290,140.01 less overdrawn balances of \$125,178.23. The latter amount has been accounted for by receipt of \$95,389.68 during August, 1948, and by transfer of \$29,788.55 from tax revenues allocable in the fiscal year beginning July 1, 1948.

Maintenance costs totaling \$1,545,281.09 for work performed by the State Roads Commission are shown by counties and by kind of expenditure in Exhibit I. Other costs of \$15,527.38 are shown, by projects, in Exhibit K.

During the fiscal year 1948, work was performed for certain counties under special agreements. The expenditures for such work were advanced from the General Construction and Operating Fund and reimbursements were therefore credited to that Fund.

The cash receipts and disbursements for the fiscal year ended June 30, 1947, are summarized as follows:

Balance, July 1, 1946.....		\$	71,844.26
Receipts:			
Seventy per cent share of the proceeds of the Lateral Road (1½ Cent) Gasoline Tax Fund (including \$920.00 of hauling permit revenue).....	\$3,775,804.43		
Remittances by counties.....	91,941.31		
Transfers from County Construction Funds.....	63,870.76		
Rental of county equipment, etc.....	5,735.28	3,937,351.78	
Total funds available.....		\$4,009,196.04	
Disbursements:			
Maintenance costs—net.....	\$1,519,546.51		
Other costs—net.....	185,712.64		
Remittances to counties.....	1,831,529.19		
Transfers to County Construction Funds.....	240,858.36		
Expenditures subject to reimbursement.....	3,167.28	3,780,813.98	
Balance, June 30, 1947.....		\$	228,382.06

A summary of the transactions for each county is shown in Schedule 1 of Exhibit D. A statement of county maintenance costs is set forth in Exhibit J, and other costs are summarized, by projects, in Exhibit K.

At June 30, 1948, the State Roads Commission of Maryland was maintaining the Roads Systems of eleven counties of this State, the costs of this maintenance work being charged on the books of the Commission to the Fund accounts of the respective counties. The road miles at January 1, 1948, in the County Systems referred to were as follows:

Calvert County.....	180.79
Caroline County.....	460.24
Cecil County.....	440.39
Charles County.....	263.92
Kent County.....	230.35
Queen Anne's County.....	390.74
St. Mary's County.....	265.24
Somerset County.....	288.05
Talbot County.....	269.04
Wicomico County.....	505.09
Worcester County.....	444.46
Total road miles.....	3,738.31

COUNTY CONSTRUCTION FUNDS

The accounts of the Commission relating to the construction of county roads are included under this classification. The projects in the main are those included in the Federal Aid Secondary Program for the fiscal years 1946, 1947, and 1948.

A summary of the cash receipts and disbursements for the fiscal years reported is as follows:

	Fiscal Year Ended	
	..... June 30, .....	.....
	1948	1947
Balance at beginning of year	\$1,060,233.17	\$1,380,242.55
Receipts:		
Remittances by counties	\$ 310,507.22	\$ 386,851.78
Federal aid apportioned by State.....	633,982.34	88,322.78
Transfers from Counties and Municipalities Tax Revenues Allocation Fund.....	268,980.89	.....
Transfers from County Maintenance Funds.....	314,214.28	240,858.36
Refund of expenditures.....	848.32	.....
Total receipts.....	\$1,528,533.05	\$ 716,032.92
Total funds available.....	\$2,588,766.22	\$2,096,275.47
Disbursements:		
Project costs—net.....	\$1,821,815.24	\$ 972,171.54
Transfers to County Maintenance Funds.....	.....	63,870.76
Expenditures subject to refund.....	848.32	.....
Total disbursements.....	\$1,822,663.56	\$1,036,042.30
Balance at end of year	\$ 766,102.66	\$1,060,233.17

Details with respect to each county account are set forth in Schedule 3 of Exhibit B and Schedule 2 of Exhibit D for the fiscal years 1948 and 1947, respectively.

The cash balance at June 30, 1948, of \$766,102.66 consisted of available balances totaling \$910,412.91 less overdrawn balances of \$144,310.25. The anticipated funds relating to the 1946-7-8 Federal Aid Program, cash balances and authorized expenditures at June 30, 1948, and estimated balances for future authorizations are set forth in Schedule 3a of Exhibit B.

Disbursements for project costs are scheduled, by counties and by projects, in Exhibit L of this report.

BONDED DEBT AND DEBT SERVICE FUNDS

These Funds include transactions relating to Bonded Debt, Debt Service, and Debt Service Reserve Funds.

The cash account with the State Treasurer is summarized as follows:

	Fiscal Year Ended	
	1948	1947
Balance at beginning of year	\$ 800,751.73	\$1,417,541.64
Receipts:		
Tax revenues transferred from General Construction and Operating Fund.....	\$ 793,318.75	
Interest on United States Treasury 2% Bonds...	11,000.00	\$ 11,000.00
Tax revenues.....		2,871,947.05
Total receipts.....	\$ 804,318.75	\$2,882,947.05
Total funds available.....	\$1,605,070.48	\$4,300,488.69
Disbursements:		
Redemption of bonds.....	\$ 663,000.00	\$ 549,000.00
Payment of interest.....	130,318.75	141,442.50
Transfer of tax revenues to Baltimore City Fund.....		741,260.04
Transfer of tax revenues to General Construction and Operating Fund.....		2,068,034.42
Total disbursements.....	\$ 793,318.75	\$3,499,736.96
Balance at end of year	\$ 811,751.73	\$ 800,751.73

The transactions in these Funds are more fully detailed in Schedule 4 of Exhibit B for the 1948 fiscal year, and in Schedule 3 of Exhibit D for the 1947 fiscal year.

A balance sheet for the Bonded Debt and Debt Service Funds at June 30, 1948, is reflected in Exhibit A and supporting details are contained in Schedules 3 and 3a of that Exhibit. Exhibit C and supporting Schedule 3 show the balance sheet status at June 30, 1947.

Section 147-I of Article 89B of the Annotated Code of Maryland as amended by the Acts of the Extraordinary Session of 1947 authorized and empowered the State Roads Commission of Maryland, by its formal resolution, to issue in series, from time to time, State Highway Construction Bonds not to exceed \$100,000,000 and directed that the proceeds from these bonds, after provision for certain debt retirement, etc., shall be used for the financing of State highway construction projects. The Commission has not authorized the issuance of any State Highway Construction Bonds to the date of this report.

SUSQUEHANNA RIVER AND POTOMAC RIVER TOLL BRIDGES FUND

This Fund includes income from all toll transactions at the Susquehanna River and the Potomac River Toll Bridges as administered by the Commission and controlled by the provisions of a Trust Indenture dated June 1, 1941. Financial statements for the fiscal years ended September 30, 1948 and 1947, are set forth in Exhibit Q and supporting schedule, and Exhibits R, S, and T of this report.

The following is a summary showing the number of toll transactions during the fiscal years 1948 and 1947:

	Fiscal Year Ended	
	September 30, 1948	September 30, 1947
Susquehanna River Toll Bridge:		
Passenger cars and light commercial vehicles.....	3,203,708	2,975,458
Trucks and commercial vehicles.....	833,459	720,370
Potomac River Toll Bridge:		
Passenger cars and light commercial vehicles.....	594,529	491,661
Trucks and commercial vehicles.....	109,573	102,436
Total.....	<u>4,741,269</u>	<u>4,289,925</u>

In connection with the issuance of State of Maryland Bridge Revenue Bonds (Series 1948) during October, 1948, it was obligatory to provide for the redemption of all outstanding Bridge Revenue Refunding Bonds of 1941. The Trust Indenture dated June 1, 1941, relating to the 1941 bonds was simultaneously vacated.

Toll revenues from the Susquehanna River and the Potomac River Bridges, together with revenues from the Chesapeake Bay Bridge when put into operation, are to be administered pursuant to the terms of a Trust Agreement dated October 1, 1948, by and between the State Roads Commission of Maryland and the Baltimore National Bank, as Trustee, securing the payment of State of Maryland Bridge Revenue Bonds (Series 1948) issued in the total amount of \$37,500,000.

CHESAPEAKE BAY FERRY SYSTEM FUND

This Fund reports cash transactions with respect to the operation and maintenance of the Chesapeake Bay Ferry System as administered under the terms of a Trust Indenture dated June 1, 1941, by and between the State Roads Commission of Maryland and the Baltimore National Bank, as Trustee. Statements covering the fiscal years ended May 31, 1948 and 1947, are shown in Exhibit U and supporting schedule, and Exhibits V and W of this report.

A summary of traffic transactions during the fiscal years ended May 31, 1948 and 1947 is as follows:

	Fiscal Year Ended	
	May 31, 1948	May 31, 1947
Number of passengers.....	1,048,574	956,411
Number of vehicles:		
Automobiles.....	506,027	435,452
Trucks and busses.....	91,214	74,014
Total.....	<u>1,645,815</u>	<u>1,465,877</u>

The issuance during October, 1948, of State of Maryland Bridge Revenue Bonds (Series 1948) made obligatory the provision for the retirement of all outstanding Chesapeake Bay Ferry System Bonds. The Trust Indenture dated June 1, 1941, relating to the 1941 bonds was simultaneously vacated. The balance of the funds of the System and current income have been and are now deposited with the State Treasurer, and operating expenses are paid by the State Treasurer upon his acceptance of approved vouchers furnished by the Commission.

The net revenues of the Ferry System are now available to the General Construc-

tion Fund in reimbursement of funds applied toward the retirement of Chesapeake Bay Ferry System Improvement Bonds outstanding at December 1, 1948.

APPLICATION OF STATE GASOLINE TAX
AND MOTOR VEHICLE FEES AND FINES

A summary showing the application of the gross receipts from the gasoline tax and from motor vehicle fees and fines as indicated by the report of the State Comptroller for the fiscal year ended June 30, 1948, is as follows:

	Gasoline Tax	Motor Vehicle Fees and Fines
Payment of refunds	\$ 1,690,285.18	\$ 92,480.95
Reserved for refunds	150,000.00	.....
Appropriated for salaries and expenses—1948:		
Department of Motor Vehicles .....	.....	817,360.10
Traffic Court of Baltimore City .....	.....	79,007.28
Comptroller of the Treasury, Gasoline Tax Division	48,099.51	.....
Appropriated for contribution to Employees' Retirement System—1947 .....	.....	15,630.15
Payments to counties on account of salaries and ex- penses of trial magistrates .....	.....	133,872.00
Shares apportioned:		
Baltimore City	5,646,824.35	2,513,221.65
State Roads Commission for counties and municipi- palities	3,764,549.56	1,675,481.08
State Roads Commission	9,411,373.88	4,188,702.77
Total	<u>\$20,711,132.48</u>	<u>\$9,515,755.98</u>

Reversion of certain appropriated funds of prior years augmented the above apportioned shares as follows:

Baltimore City	\$ 21.12	\$ 2,919.71
State Roads Commission for counties and municipali- ties	14.08	1,946.48
State Roads Commission	35.21	4,866.21
Total	<u>\$ 70.41</u>	<u>\$ 9,732.40</u>

Prior to the fiscal year 1948, a portion of motor vehicle fees was used to defray the cost of operating the Department of State Police. Beginning with the fiscal year 1948, appropriations for this Department are provided from the general funds of the State.

GENERAL

Included in the condensed statement of cash receipts and disbursements for the 1947 fiscal year (Exhibit D) are transactions with respect to revenues from the Lateral Road (1½ cent) Gasoline Tax Fund received for account of Baltimore City. Tax revenues allocable to Baltimore City did not clear through the State Roads Commission's accounts after June 30, 1947.

The Acts of 1947 made mandatory certain changes effective July 1, 1947, in the

administration of specified funds under the Commission's control, and these changes necessitated some revisions in the accounting system. Although these revisions were not effected on the books until July 1, 1948, the accompanying financial statements for the fiscal years 1948 and 1947 have been prepared on a basis consistent with the statutory changes referred to; also, as far as possible, the statements have been prepared on a basis to permit of yearly comparison.

During the calendar year 1948 a study of the accounting department functions was undertaken by the Commission through engagement of a New York firm of management consultants. Fund and cost accounting procedures were revised and the accounting department has made individual fund ledger recordings since July 1, 1948. Also the accounting department with its existing personnel is now engaged in a continuous study of the accounting methods and procedures for the purpose of establishing adequate records and effective internal accounting controls.

On October 27, 1948, the Commission sold \$37,500,000 State of Maryland Bridge Revenue Bonds (Series 1948) to finance the construction of the Chesapeake Bay Bridge. The proceeds from the sale of these bonds amounted to \$37,580,605.07, including accrued interest of \$80,605.07. Under the terms of a Trust Agreement dated October 1, 1948, tolls and other revenues of the Susquehanna River Toll Bridge and the Potomac River Toll Bridge, as well as the revenues from the Chesapeake Bay Bridge when put into operation, are pledged to secure the payment of bond principal and interest. The bridge revenue bonds mature as follows: serial bonds totaling \$18,500,000, bearing interest at annual rates ranging from $2\frac{1}{2}\%$ to 3% , mature in annual installments beginning October 1, 1952, and ending October 1, 1967; term bonds totaling \$19,000,000, bearing interest at the annual rate of 3.2% , mature October 1, 1972. A Construction Fund for the Chesapeake Bay Bridge project is being maintained on the books of the Commission; and Haskins & Sells, Certified Public Accountants, have been engaged to make annual audits of the books and accounts of the Commission relating to the Chesapeake Bay Bridge project, the Susquehanna River Toll Bridge, and the Potomac River Toll Bridge.

During the calendar year 1948, the State Roads Commission awarded construction contracts aggregating \$29,759,000. In addition, construction work estimated to cost \$6,763,000 had been advertised and bids received at December 31, 1948. This is in contrast to a total authorization of \$8,441,000 for the calendar year 1947. The acceleration in the roads program is reflected in the increasing cash outlays in payment of this work. To illustrate, in the first quarter of 1948 construction expenditures exceeded \$2,000,000; in the second quarter they exceeded \$5,000,000; in the third quarter, \$6,000,000; and in the fourth quarter, \$9,000,000. Based on the rate of expenditures and continued volume of contract awards, the first use of the \$100,000,000 of State Highway Construction Bonds is indicated during the calendar year 1949.

Respectfully submitted,

Carl L. Wannan
Comptroller

COMBINED BALANCE SHEET, JUNE 30, 1948 (INCLUDING ALL FUNDS EXCEPT SUSQUEHANNA RIVER TOLL BRIDGE, POTOMAC RIVER TOLL BRIDGE, AND CHESAPEAKE BAY FERRY SYSTEM)

	TOTAL	GENERAL CONSTRUCTION AND OPERATING FUND	MAINTENANCE FUND	COUNTIES AND MUNICIPALITIES TAX REVENUES ALLOCATION FUND	COUNTY MAINTENANCE FUNDS (Schedule 1)	COUNTY CONSTRUCTION FUNDS (Schedule 2)	BONDED DEBT AND DEBT SERVICE FUNDS (Schedule 3)	FIXED ASSETS (Schedule 4)
ASSETS								
CASH:								
With State Treasurer Working Fund:	\$ 19,109,961.15	\$14,745,763.82	\$2,170,505.55	\$450,875.61	\$164,961.78	\$ 766,102.66	\$ 811,751.73	
Payroll Office	485,000.00	485,000.00						
DEBT SERVICE FUNDS WITH FISCAL AGENTS	15,000.00	15,000.00						
ACCOUNTS RECEIVABLE:	1,810.00						1,810.00	
United States Government (Federal aid)	2,384,293.15	2,120,115.14				264,178.01		
Others	87,020.89	87,020.89						
INVENTORIES OF MATERIALS AND SUPPLIES (Estimated valuation)	714,744.63	714,744.63						
PRELIMINARY CONSTRUCTION COSTS, ETC.	1,669,763.17	1,669,763.17						
ROADS SYSTEM CONSTRUCTION AND OTHER WORK IN PROGRESS	18,585,056.38	18,585,056.38						\$218,755,011.96
ROADS SYSTEM AND OTHER FIXED ASSETS (Book value)	218,755,011.96							
FUTURE TAX REVENUES AND EXISTING DEBT SERVICE RESERVE FUNDS ENCUMBERED FOR THE REDEMPTION OF OUTSTANDING BONDS	7,234,000.00						7,234,000.00	
FUTURE RECEIPTS ENCUMBERED FOR THE COMPLETION OF AUTHORIZED PROJECTS:								
Tax revenues, bond proceeds, etc.	2,989,020.49	2,989,020.49						
County funds and Federal aid apportionments	1,239,573.37				126,946.11	1,112,627.26		
TOTAL	\$273,270,255.19	\$41,411,484.52	\$2,170,505.55	\$450,875.61	\$291,907.89	\$2,142,907.93	\$8,047,561.73	\$218,755,011.96
LIABILITIES								
TAX APPORTIONMENTS PAYABLE TO:								
Counties								
Municipalities	\$ 345,625.00							
ACCOUNTS PAYABLE—Miscellaneous	105,250.61							
CALLED BONDS AND INTEREST COUPONS PAYABLE THROUGH STATE TREASURER OR FISCAL AGENTS	4,186.28	4,186.28						
BONDS PAYABLE	12,210.00						\$ 12,210.00	
DUE TO STATE COMPTROLLER FOR WORKING FUND ADVANCED	7,234,000.00						7,234,000.00	
STATE EQUITY IN ROADS SYSTEM CONSTRUCTION AND OTHER WORK IN PROGRESS	500,000.00	500,000.00						
STATE EQUITY IN ROADS SYSTEM AND OTHER FIXED ASSETS RESERVES:	18,585,056.38	18,585,056.38						\$218,755,011.96
Completion of authorized projects	21,581,900.20	20,115,105.83						
Debt service	801,351.73						801,351.73	
Sign Permit Fund	18,420.65		\$ 18,420.65					
Accounts receivable	2,471,314.04	2,207,136.03						
SURPLUS AVAILABLE FOR NEW PROJECTS, ETC.	2,855,928.34		2,152,084.90		266,458.23			
TOTAL	\$273,270,255.19	\$41,411,484.52	\$2,170,505.55	\$450,875.61	\$291,907.89	\$2,142,907.93	\$8,047,561.73	\$218,755,011.96

COUNTY MAINTENANCE FUNDS
COMBINED BALANCE SHEET, JUNE 30, 1948

	ASSETS			LIABILITIES		
	CASH WITH STATE TREASURER	FUTURE RECEIPTS ENCUMBERED FOR THE COMPLETION OF AUTHORIZED PROJECTS	TOTAL	RESERVE FOR COMPLETION OF AUTHORIZED PROJECTS	SURPLUS AVAILABLE FOR NEW PROJECTS, ETC.	TOTAL
ANNE ARUNDEL COUNTY	\$ 23,681.78	\$ 1,767.88	\$ 25,449.66	\$25,449.66		\$ 25,449.66
BALTIMORE COUNTY	18,264.43		18,264.43		\$ 18,264.43	18,264.43
CALVERT COUNTY	<i>6,200.82</i>	6,200.82				
CAROLINE COUNTY	83,386.48		83,386.48		83,386.48	83,386.48
CARROLL COUNTY	234.00		234.00		234.00	234.00
CECIL COUNTY	<i>11,763.92</i>	11,763.92				
CHARLES COUNTY	22,411.11		22,411.11		22,411.11	22,411.11
MONTGOMERY COUNTY	12,080.91		12,080.91		12,080.91	12,080.91
QUEEN ANNE'S COUNTY	55,490.65		55,490.65		55,490.65	55,490.65
ST. MARY'S COUNTY	13,265.38		13,265.38		13,265.38	13,265.38
SOMERSET COUNTY	<i>11,823.81</i>	11,823.81				
TALBOT COUNTY	<i>95,389.68</i>	95,389.68				
WICOMICO COUNTY	1,483.68		1,483.68		1,483.68	1,483.68
WORCESTER COUNTY	59,841.59		59,841.59		59,841.59	59,841.59
TOTAL	\$164,961.78	\$126,946.11	\$291,907.89	\$25,449.66	\$266,458.23	\$291,907.89

ITALICS INDICATE RED FIGURES.

COUNTY CONSTRUCTION FUNDS
COMBINED BALANCE SHEET, JUNE 30, 1948

	ASSETS			LIABILITIES				
	CASH WITH STATE TREASURER	ACCOUNTS RECEIVABLE—UNITED STATES GOVERNMENT (Federal aid)	FUTURE RECEIPTS ENCUMBERED FOR THE COMPLETION OF AUTHORIZED PROJECTS—COUNTY FUNDS AND FEDERAL AID APPORTIONMENTS	TOTAL	RESERVE FOR COMPLETION OF AUTHORIZED PROJECTS	RESERVE FOR ACCOUNTS RECEIVABLE	SURPLUS AVAILABLE FOR NEW PROJECTS, ETC.	TOTAL
ALLEGANY COUNTY	\$ 39,869.59			\$ 39,869.59	\$ 8,015.81		\$ 31,853.78	\$ 39,869.59
ANNE ARUNDEL COUNTY	175,640.33			175,640.33			175,640.33	175,640.33
BALTIMORE COUNTY	190,631.03		\$ 244,792.36	435,423.39	435,423.39			435,423.39
CALVERT COUNTY	<i>2,180.29</i>		2,180.29					
CAROLINE COUNTY	27,608.14		26,326.35	53,934.49	53,934.49			53,934.49
CARROLL COUNTY	<i>82,186.00</i>		118,867.17	36,681.17	36,681.17			36,681.17
CECIL COUNTY	23,126.74		75,204.75	98,331.49	98,331.49			98,331.49
CHARLES COUNTY	22,347.83		89,941.69	112,289.52	112,289.52			112,289.52
DORCHESTER COUNTY	<i>8,442.49</i>		67,283.74	58,841.25	58,841.25			58,841.25
FREDERICK COUNTY	<i>22,433.43</i>		22,433.43					
GARRETT COUNTY	126,669.02		186,379.65	313,048.67	313,048.67			313,048.67
HARFORD COUNTY	41,552.83			41,552.83			41,552.83	41,552.83
HOWARD COUNTY	52,709.04			52,709.04			52,709.04	52,709.04
KENT COUNTY	50,364.37		5,045.48	55,409.85	55,409.85			55,409.85
MONTGOMERY COUNTY	135,629.23			135,629.23			135,629.23	135,629.23
PRINCE GEORGE'S COUNTY	14,786.61		111,142.91	125,929.52	125,929.52			125,929.52
QUEEN ANNE'S COUNTY	<i>7,624.37</i>		14,764.04	7,139.67	7,139.67			7,139.67
ST. MARY'S COUNTY	<i>19.32</i>		19.32					
SOMERSET COUNTY	<i>2,405.06</i>		60,175.97	57,770.91	57,770.91			57,770.91
TALBOT COUNTY	4,433.78		20,699.34	25,133.12	25,133.12			25,133.12
WASHINGTON COUNTY	2,930.09		4,086.30	7,016.39	7,016.39			7,016.39
WICOMICO COUNTY	2,114.28		34,597.63	36,711.91	36,711.91			36,711.91
WORCESTER COUNTY	<i>19,019.29</i>		28,686.84	9,667.55	9,667.55			9,667.55
UNDISTRIBUTED (Apportioned on a road mileage basis when realized)		\$264,178.01		264,178.01		\$264,178.01		264,178.01
TOTAL	\$766,102.66	\$264,178.01	\$1,112,627.26	\$2,142,907.93	\$1,441,344.71	\$264,178.01	\$437,385.21	\$2,142,907.93

ITALICS INDICATE RED FIGURES.

EXHIBIT A, Schedule 3

**BONDED DEBT AND DEBT SERVICE FUNDS
COMBINED BALANCE SHEET, JUNE 30, 1948**

	TOTAL	BONDED DEBT FUNDS		DEBT SERVICE FUNDS		DEBT SERVICE RESERVE FUNDS	
		REFUNDING AND IMPROVEMENT BONDS OF 1941	CHESAPEAKE BAY FERRY SYSTEM IMPROVEMENT BONDS OF 1945	4% BONDS OF 1933	REFUNDING AND IMPROVEMENT BONDS OF 1941	REFUNDING AND IMPROVEMENT BONDS OF 1941	CHESAPEAKE BAY FERRY SYSTEM IMPROVEMENT BONDS OF 1945
ASSETS							
CASH WITH STATE TREASURER (Includes \$550,000.00 United States Treasury 2% Bonds).....	\$ 811,751.73			\$10,400.00		\$683,894.01	\$117,457.72
DEBT SERVICE FUNDS WITH FISCAL AGENTS.....	1,810.00			1,600.00	\$210.00		
FUTURE TAX REVENUES AND EXISTING DEBT SERVICE RESERVE FUNDS ENCUMBERED FOR THE REDEMPTION OF OUTSTANDING BONDS.....	7,234,000.00	\$5,833,000.00	\$1,401,000.00				
TOTAL.....	\$8,047,561.73	\$5,833,000.00	\$1,401,000.00	\$12,000.00	\$210.00	\$683,894.01	\$117,457.72
LIABILITIES							
CALLED BONDS AND INTEREST COUPONS PAYABLE THROUGH STATE TREASURER OR FISCAL AGENTS.....	\$12,210.00			\$12,000.00	\$210.00		
BONDS PAYABLE—Schedule 3a.....	7,234,000.00	\$5,833,000.00	\$1,401,000.00				
DEBT SERVICE RESERVES.....	801,351.73					\$683,894.01	\$117,457.72
TOTAL.....	\$8,047,561.73	\$5,833,000.00	\$1,401,000.00	\$12,000.00	\$210.00	\$683,894.01	\$117,457.72

NOTE—At June 30, 1948, certain revenue funds of the Commission were contingently pledged to secure the payment of outstanding Chesapeake Bay Ferry System 1½% Revenue Bonds of 1941 totaling \$440,000.00 and interest thereon.

EXHIBIT A, Schedule 3a

BONDED DEBT AND DEBT SERVICE FUNDS
BONDS PAYABLE, JUNE 30, 1948

MATURITY DATE	TOTAL PRINCIPAL	REFUNDING AND IMPROVEMENT BONDS OF 1941		CHESAPEAKE BAY FERRY SYSTEM IMPROVEMENT BONDS OF 1945	
		PRINCIPAL	INTEREST RATE	PRINCIPAL	INTEREST RATE
October 1, 1948	\$ 680,000.00	\$ 580,000.00	2 ⁰⁰ / ₄ %	\$ 100,000.00	1 ¹⁰ / ₄ %
October 1, 1949	697,000.00	596,000.00	2 ⁰⁰ / ₄ %	101,000.00	1 ¹⁰ / ₄ %
October 1, 1950	714,000.00	612,000.00	2 ⁰⁰ / ₄ %	102,000.00	1 ¹⁰ / ₄ %
October 1, 1951	733,000.00	629,000.00	1 ³⁰ / ₄ %	104,000.00	1 ¹⁰ / ₄ %
October 1, 1952	751,000.00	646,000.00	1 ⁴⁰ / ₄ %	105,000.00	1 ¹⁰ / ₄ %
October 1, 1953	771,000.00	665,000.00	1 ⁴⁰ / ₄ %	106,000.00	1 ¹⁰ / ₄ %
October 1, 1954	790,000.00	682,000.00	1 ⁴⁰ / ₄ %	108,000.00	1 ¹⁰ / ₄ %
October 1, 1955	811,000.00	702,000.00	1 ⁴⁰ / ₄ %	109,000.00	1 ¹⁰ / ₄ %
October 1, 1956	831,000.00	721,000.00	1 ⁴⁰ / ₄ %	110,000.00	1 ¹⁰ / ₄ %
October 1, 1957	112,000.00	.....	.....	112,000.00	1 ¹⁰ / ₄ %
October 1, 1958	113,000.00	.....	.....	113,000.00	1 ¹⁰ / ₄ %
October 1, 1959	115,000.00	.....	.....	115,000.00	1 ¹⁰ / ₄ %
October 1, 1960	116,000.00	.....	.....	116,000.00	1 ¹⁰ / ₄ %
TOTAL	\$7,234,000.00	\$5,833,000.00		\$1,401,000.00	

NOTE—A summary of debt service requirements, by fiscal years, is as follows:

FISCAL YEAR	TOTAL	PRINCIPAL	INTEREST
1949	\$ 797,635.00	\$ 680,000.00	\$117,635.00
1950	801,618.75	697,000.00	104,618.75
1951	805,270.00	714,000.00	91,270.00
1952	811,358.75	733,000.00	78,358.75
1953	816,896.25	751,000.00	65,896.25
1954	824,106.25	771,000.00	53,106.25
1955	829,982.50	790,000.00	39,982.50
1956	837,516.25	811,000.00	26,516.25
1957	843,696.25	831,000.00	12,696.25
1958	117,000.00	112,000.00	5,000.00
1959	116,593.75	113,000.00	3,593.75
1960	117,168.75	115,000.00	2,168.75
1961	116,725.00	116,000.00	725.00
	\$7,835,567.50	\$7,234,000.00	\$601,567.50

EXHIBIT A, Schedule 4

STATEMENT OF ROADS SYSTEM AND OTHER FIXED ASSETS FOR THE FISCAL YEAR ENDED JUNE 30, 1948

	BALANCE, JULY 1, 1947	ADDITIONS			DEDUC- TIONS	BALANCE, JUNE 30, 1948
		GENERAL CONSTRUC- TION AND OPERATING FUND	MAINTEN- ANCE FUND	TOTAL		
ROADS SYSTEM:						
Roads	\$189,013,902.60	\$1,134,131.90		\$1,134,131.90		\$190,148,034.50
Bridges	16,479,530.81	49,134.97		49,134.97		16,528,665.78
Grade Eliminations	7,066,485.24					7,066,485.24
TOTAL ROADS SYSTEM.....	\$212,559,918.65	\$1,183,266.87		\$1,183,266.87		\$213,743,185.52
OTHER FIXED ASSETS:						
Lands and Buildings	\$ 630,802.33	\$ 5,356.56		\$ 5,356.56		\$ 636,158.89
Chesapeake Bay Ferry Terminals		11,337.22		11,337.22		11,337.22
Accounting and Commercial Properties	101,715.24		\$ 8,022.21	8,022.21		109,737.45
Operating Engineers' Properties	116,909.84		20,767.55	20,767.55		137,677.39
Plans and Survey Properties	64,539.94		13,336.41	13,336.41		77,876.35
Sign and Repair Shop Properties	178,217.80		15,876.27	15,876.27		194,094.07
Laboratory Properties	32,376.17		1,855.56	1,855.56		34,231.73
Transportation Equipment	176,448.11		75,629.53	75,629.53	\$ 56,273.06	195,804.58
Construction Equipment	2,629,865.33		467,116.88	467,116.88	194,200.26	2,902,781.95
Small Tools and Equipment	458,357.57		44,886.61	44,886.61	146.40	503,097.78
Signs and Markers	198,008.17		11,020.86	11,020.86		209,029.03
TOTAL OTHER FIXED ASSETS	\$ 4,587,240.50	\$ 16,693.78	\$658,511.88	\$ 675,205.66	\$250,619.72	\$ 5,011,826.44
TOTAL.....	\$217,147,159.15	\$1,199,960.65	\$658,511.88	\$1,858,472.53	\$250,619.72	\$218,755,011.96

NOTES:

This statement does not include construction work in progress.
 The balance of \$218,755,011.96 at June 30, 1948, is apparently overstated as the result of unrecorded dispositions over a period of years.

EXHIBIT B

CONDENSED STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE FISCAL YEAR ENDED JUNE 30, 1948
(INCLUDING ALL FUNDS EXCEPT SUSQUEHANNA RIVER TOLL BRIDGE, POTOMAC RIVER TOLL BRIDGE, AND
CHESAPEAKE BAY FERRY SYSTEM)

	TOTAL	ELIMINATIONS	GENERAL CON- STRUCTION AND OPERATING FUND	MAINTENANCE FUND	COUNTIES AND MUNICIPALITIES TAX REVENUES ALLOCATION FUND (Schedule 1)	COUNTY MAINTENANCE FUNDS (Schedule 2)	COUNTY CONSTRUCTION FUNDS (Schedule 3)	DEBT SERVICE FUNDS (Schedule 4)
BALANCE, JULY 1, 1947.....	\$10,322,090.27		\$11,488,268.97	\$2,744,454.34		\$ 228,382.06	\$1,060,233.17	\$ 800,751.73
RECEIPTS:								
Fifty Per Cent Share of the Gasoline Tax Fund.....	\$ 9,411,409.09		\$ 9,411,409.09					
Twenty Per Cent Share of the Gasoline Tax Fund.....	3,764,563.64				\$3,764,563.64			
Fifty Per Cent Share of the Motor Vehicle Revenue Fund.....	4,193,568.98			\$4,193,568.98				
Twenty Per Cent Share of the Motor Vehicle Revenue Fund.....	1,677,427.56				1,677,427.56			
Excise Tax on Issuance of Certificates of Title for Motor Vehicles.....	4,441,265.82		4,441,265.82					
Issuance of Sign Licenses.....	2,500.00		2,500.00					
Issuance of Sign Permits.....	4,687.67		4,687.67					
Issuance of Hauling Permits.....	39,650.00		39,650.00					
Sale of Specifications.....	4,405.00			4,405.00				
Sale of New, Old, and Scrap Materials, and Miscellaneous Income.....	81,203.37		6,343.40	74,859.97				
Rentals.....	4,874.07			4,874.07				
Interest on United States Treasury Bonds.....	11,000.00							\$ 11,000.00
Unclaimed Wages.....	523.29		523.29					
Federal Aid.....	2,125,644.09		1,491,661.75				\$ 633,982.34	
Portion of Proceeds of the Emergency Reconstruction Bond Issue of 1936 Allo- cated by the Board of Public Works.....	196,670.13		196,670.13					
County Remittances to Supplement County Funds.....	446,646.60					\$ 136,139.38	310,507.22	
County Remittances for Specific Project Costs Billed:								
Somerset County.....	1,465.21		1,465.21					
Wicomico County.....	81,228.77		81,228.77					
Worcester County.....	77,718.41		77,718.41					
Refunds of Expenditures, Miscellaneous Cost Recoveries, etc.....	203,534.10		187,098.67	13,293.62		2,293.49	848.32	
Reimbursements from Toll Facility Sys- tems.....	528,331.54		528,331.54			3,134.00		
Rental of County Equipment.....								
Transfers:		\$ 3,134.00						
From General Construction and Operating Fund.....		793,318.75						793,318.75

EXHIBIT B, Schedule 1

COUNTIES AND MUNICIPALITIES TAX REVENUES ALLOCATION FUND
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE FISCAL YEAR
ENDED JUNE 30, 1948

	RECEIPTS		DISBURSEMENTS			BALANCE, JUNE 30, 1948
	ALLOCATION OF 20% SHARE OF GASOLINE TAX AND MOTOR VEHICLE REVENUE FUNDS	PAYMENTS TO COUNTIES AND MUNICI- PALITIES	TRANSFERS TO COUNTY MAINTENANCE FUNDS	TRANSFERS TO COUNTY CONSTRUC- TION FUNDS	TOTAL	
COUNTIES:						
Allegany	\$ 209,469.08	\$ 194,427.06		\$ 9,469.08	\$ 203,896.14	\$ 5,572.94
Anne Arundel	260,853.70	183,373.73		73,233.46	256,607.19	4,246.51
Baltimore	561,828.30	522,183.13			522,183.13	39,645.17
Calvert	75,982.99		\$ 75,982.99		75,982.99	
Caroline	194,105.83		194,105.83		194,105.83	
Carroll	302,604.17	186,229.30	5,413.37	89,483.01	281,125.68	21,478.49
Cecil	183,627.15		183,627.15		183,627.15	
Charles	144,322.77		144,322.77		144,322.77	
Dorchester	202,607.90	187,098.42	1,059.87		188,158.29	14,449.61
Frederick	423,697.79	393,709.58			393,709.58	29,988.21
Garrett	303,364.06	183,740.87	3,747.15	96,795.34	284,283.36	19,080.70
Harford	242,231.30	223,213.10	1,755.46		224,968.56	17,262.74
Howard	119,871.46	111,177.73			111,177.73	8,693.73
Kent	111,207.47		111,207.47		111,207.47	
Montgomery	301,166.13	279,508.05			279,508.05	21,658.08
Prince George's	201,080.59		55,563.04		55,563.04	145,517.55
Queen Anne's	165,368.55		165,368.55		165,368.55	
St. Mary's	123,690.02		123,690.02		123,690.02	
Somerset	120,479.19		120,479.19		120,479.19	
Talbot	112,892.93		112,892.93		112,892.93	
Washington	261,411.15	243,379.88			243,379.88	18,031.27
Wicomico	216,690.29		216,690.29		216,690.29	
Worcester	186,571.98		186,571.98		186,571.98	
TOTAL COUNTIES	\$5,025,124.80	\$2,708,040.85	\$1,702,478.06	\$268,980.89	\$4,679,499.80	\$345,625.00
MUNICIPALITIES—Schedule 1a	416,866.40	311,615.79			311,615.79	105,250.61
TOTAL COUNTIES AND MUNICIPAL- ITIES	\$5,441,991.20	\$3,019,656.64	\$1,702,478.06	\$268,980.89	\$4,991,115.59	\$450,875.61

EXHIBIT B, Schedule 1a

COUNTIES AND MUNICIPALITIES TAX REVENUES ALLOCATION FUND
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR ACCOUNT OF
MUNICIPALITIES FOR THE FISCAL YEAR ENDED JUNE 30, 1948

MUNICIPALITY	ROAD MILES— MUNICIPALITIES	RECEIPTS	DISBURSEMENTS	BALANCE, JUNE 30, 1948
ALLEGANY COUNTY:				
Barton	2.500	\$ 1,047.83	\$ 769.44	\$ 278.39
Cumberland	112.381	47,102.36	34,563.38	12,538.98
Frostburg	23.478	9,849.36	7,208.29	2,632.07
Lonaconing	6.125	2,567.18	1,883.07	684.11
Luke	2.020	846.64	627.69	218.95
Midland	2.755	1,154.71	850.41	304.30
Westernport	9.189	3,851.39	2,834.76	1,016.63
TOTAL	158.448	\$ 66,410.47	\$ 48,737.04	\$ 17,673.43
ANNE ARUNDEL COUNTY:				
Annapolis	15.990	\$ 6,701.90	\$ 4,912.99	\$ 1,788.91
Arundel on the Bay	3.480	1,458.58	1,065.48	393.10
TOTAL	19.470	\$ 8,160.48	\$ 5,978.47	\$ 2,182.01
CALVERT COUNTY:				
Chesapeake Beach	5.510	\$ 2,309.41	\$ 1,701.11	\$ 608.30
North Beach	5.250	2,200.44	1,618.13	582.31
TOTAL	10.760	\$ 4,509.85	\$ 3,319.24	\$ 1,190.61
CAROLINE COUNTY:				
Denton	8.240	\$ 3,453.64	\$ 2,541.23	\$ 912.41
Federalburg	6.210	2,602.80	1,909.65	693.15
Goldsboro	.550	230.52		230.52
Greensboro	2.350	984.96	721.78	263.18
Hillsboro	.340	142.51	105.26	37.25
Preston	1.280	536.49	390.96	145.53
Ridgely	6.280	2,632.14	1,939.75	692.39
TOTAL	25.250	\$ 10,583.06	\$ 7,608.63	\$ 2,974.43
CARROLL COUNTY:				
Hampstead	2.030	\$ 850.84	\$ 630.47	\$ 220.37
Mount Airy	4.490	1,881.90	1,377.68	504.22
New Windsor	2.480	1,039.44	770.61	268.83
Sykesville	4.119	1,726.40	1,260.94	465.46
Union Bridge	4.270	1,789.69	1,307.66	482.03
Westminster	19.020	7,971.87	5,861.07	2,110.80
TOTAL	36.409	\$ 15,260.14	\$ 11,208.43	\$ 4,051.71
CECIL COUNTY:				
Cecilton	.460	\$ 192.80	\$ 141.61	\$ 51.19
Charlestown	2.870	1,202.90	892.20	310.70
Chesapeake City	2.960	1,240.63	906.36	334.27
Elkton	8.530	3,575.19	2,619.92	955.27
North East	3.640	1,525.64	1,118.78	406.86
Perryville	1.381	578.82	424.85	153.97
Port Deposit	.720	301.77	226.54	75.23
Rising Sun	1.700	712.52	524.00	188.52
TOTAL	22.261	\$ 9,330.27	\$ 6,854.26	\$ 2,476.01
CHARLES COUNTY:				
Indian Head	2.120	\$ 1,186.23	\$ 811.51	\$ 374.72
La Plata	5.000	2,797.72	1,917.21	880.51
TOTAL	7.120	\$ 3,983.95	\$ 2,728.72	\$ 1,255.23
DORCHESTER COUNTY:				
Cambridge	23.480	\$ 9,841.19	\$ 9,132.92	\$ 708.27
Hurlock	6.040	2,531.55	1,857.06	674.49
Secretary	1.385	580.50	428.54	151.96
Vienna	1.387	581.34	428.54	152.80
TOTAL	32.292	\$ 13,534.58	\$ 11,847.06	\$ 1,687.52

EXHIBIT B, Schedule 1a—Continued

COUNTIES AND MUNICIPALITIES TAX REVENUES ALLOCATION FUND
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR ACCOUNT OF
MUNICIPALITIES FOR THE FISCAL YEAR ENDED JUNE 30, 1948

MUNICIPALITY	ROAD MILES— MUNICIPALITIES	RECEIPTS	DISBURSEMENTS	BALANCE, JUNE 30, 1948
FREDERICK COUNTY:				
Brunswick	16.373	\$ 6,862.43	\$ 5,026.30	\$ 1,836.13
Burkittsville	1.370	574.22	438.55	135.67
Emmitsburg	4.160	1,743.58	1,281.87	461.71
Frederick	45.755	19,177.34	14,100.58	5,076.76
Middletown	3.328	1,394.88	1,011.98	382.90
Mount Airy	.910	381.41	269.85	111.56
Myersville	.180	75.45	55.43	20.02
Thurmont	7.600	3,185.40	2,327.61	857.79
Walkersville	2.905	1,217.58	910.81	306.77
Woodsboro	1.850	775.39	573.48	201.91
TOTAL	84.431	\$ 35,387.68	\$ 25,996.46	\$ 9,391.22
GARRETT COUNTY:				
Accident	1.700	\$ 712.52	\$ 540.74	\$ 171.78
Deer Park	4.050	1,697.48	1,246.03	451.45
Friendsville	3.365	1,410.38	1,034.44	375.94
Grantsville	2.530	1,060.40	775.81	284.59
Kitzmillersville	3.490	1,462.77	1,081.47	381.30
Loch Lynn Heights	3.360	1,408.28	1,034.44	373.84
Mountain Lake Park	10.435	4,373.63	3,220.87	1,152.76
Oakland	9.462	3,965.82	2,915.22	1,050.60
TOTAL	38.392	\$ 16,091.28	\$ 11,849.02	\$ 4,242.26
HARFORD COUNTY:				
Aberdeen	9.162	\$ 3,840.08	\$ 2,820.08	\$ 1,020.00
Bel Air	8.674	3,635.54	2,667.67	967.87
Havre de Grace	23.286	9,759.88	7,164.53	2,595.35
TOTAL	41.122	\$ 17,235.50	\$ 12,652.28	\$ 4,583.22
KENT COUNTY:				
Betterton	1.200	\$ 577.84	\$ 395.82	\$ 182.02
Chestertown	5.310	2,556.95	1,749.49	807.46
Galena	.440	211.88	142.49	69.39
Millington	.640	308.18	213.74	94.44
Rock Hall	1.640	789.71	538.29	251.42
TOTAL	9.230	\$ 4,444.56	\$ 3,039.83	\$ 1,404.73
MONTGOMERY COUNTY:				
Barnsville	.450	\$ 188.60	\$ 147.26	\$ 41.34
Chevy Chase, Section III	2.223	931.72	869.11	62.61
Chevy Chase, Section IV	5.740	2,405.81	1,767.18	638.63
Chevy Chase, Section V	1.620	678.99	490.90	188.09
Chevy Chase View	3.310	1,387.33	1,006.31	381.02
Chevy Chase Village	7.248	3,037.86	2,233.52	804.34
Drummond	.390	163.46	122.73	40.73
Friendship Heights	.875	366.74	244.53	122.21
Gaithersburg	5.360	2,246.54	1,644.44	602.10
Garrett Park	3.095	1,297.21	957.23	339.98
Glen Echo	1.700	712.53	515.43	197.10
Kensington	6.615	2,772.56	2,037.17	735.39
Martins Additions	2.303	965.26	711.79	253.47
North Chevy Chase	.990	414.94	294.53	120.41
Oakmont	.518	217.11	171.82	45.29
Poolesville	.762	319.37	245.43	73.94
Rockville	14.770	6,190.57	4,540.71	1,649.86
Somerseset	1.960	821.50	613.61	207.89
Takoma Park	16.551	6,937.04	5,080.67	1,856.37
Washington Grove	2.890	1,211.29	883.62	327.67
TOTAL	79.370	\$ 33,266.43	\$ 24,577.99	\$ 8,688.44
PRINCE GEORGE'S COUNTY:				
Berwyn Heights	4.616	\$ 1,934.71	\$ 1,412.05	\$ 522.66
Bladensburg	4.097	1,717.18	1,255.14	462.04
Bowie	3.410	1,429.23	1,059.03	370.20
Brentwood	6.764	2,835.00	2,078.83	756.17
Cheverly	10.552	4,422.67	3,255.54	1,167.13
College Park	16.540	6,932.43	5,099.00	1,833.43
Colmar Manor	3.724	1,560.84	1,137.47	423.37

COUNTIES AND MUNICIPALITIES TAX REVENUES ALLOCATION FUND
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR ACCOUNT OF
MUNICIPALITIES FOR THE FISCAL YEAR ENDED JUNE 30, 1948

MUNICIPALITY	ROAD MILES— MUNICIPALITIES	RECEIPTS	DISBURSEMENTS	BALANCE, JUNE 30, 1948
PRINCE GEORGE'S COUNTY (Continued):				
Cottage City	2.398	\$ 1,005.07	\$ 745.28	\$ 259.79
District Heights	3.971	1,664.37	1,215.90	448.47
Eagle Harbor	1.765	739.76	549.12	190.64
Edmonston	4.018	1,684.06	1,235.53	448.53
Fairmount Heights	5.645	2,366.00	1,745.43	620.57
Glenarden	1.846	773.72	568.73	204.99
Hyattsville	26.163	10,965.72	10,168.47	797.25
Landover Hills	3.977	1,666.89	1,215.89	451.00
Laurel	10.630	4,455.36	3,275.12	1,180.24
Mount Rainer	13.830	5,796.59	4,255.70	1,540.89
North Brentwood	2.232	935.50	686.44	249.06
Riverdale	10.975	4,599.96	3,373.19	1,226.77
Seat Pleasant	4.665	1,955.25	2,608.32	941.72
Takoma Park	8.470	3,550.04	2,608.32	1,955.25
University Park	5.549	2,325.76	1,706.20	619.56
Upper Marlboro	1.860	779.59	568.71	210.88
TOTAL	157.697	\$ 66,095.70	\$ 49,215.09	\$ 16,880.61
QUEEN ANNE'S COUNTY:				
Barclay	.445	\$ 186.51	\$ 136.53	\$ 49.98
Centreville	5.520	2,313.60	1,700.36	613.24
Church Hill	.510	213.76	148.95	64.81
Queenstown	1.120	469.43	347.51	121.92
Sudlersville	.600	251.48	186.16	65.32
Templeville	.120	50.29	37.23	13.06
TOTAL	8.315	\$ 3,485.07	\$ 2,556.74	\$ 928.33
ST. MARY'S COUNTY:				
Leonardtwn	1.420	\$ 669.93	\$ 375.54	\$ 294.39
TOTAL	1.420	\$ 669.93	\$ 375.54	\$ 294.39
SOMERSET COUNTY:				
Crisfield	12.730	\$ 5,335.54	\$ 3,916.95	\$ 1,418.59
Princess Anne	3.510	1,471.15	1,084.41	386.74
TOTAL	16.240	\$ 6,806.69	\$ 5,001.36	\$ 1,805.33
TALBOT COUNTY:				
Easton	15.995	\$ 6,704.00	\$ 4,906.81	\$ 1,797.19
Oxford	3.805	1,594.79	1,170.03	424.76
St. Michaels	5.390	2,259.12	1,512.30	746.82
Trappe	.830	347.88	253.94	93.94
TOTAL	26.020	\$ 10,905.79	\$ 7,843.08	\$ 3,062.71
WASHINGTON COUNTY:				
Boonsboro	3.855	\$ 1,615.75	\$ 1,199.00	\$ 416.75
Clearspring	2.515	1,054.12	775.81	278.31
Funkstown	3.110	1,303.50	963.92	339.58
Hagerstown	108.423	45,443.44	33,454.76	11,988.68
Hancock	2.815	1,179.85	869.88	309.97
Keedysville	2.395	1,003.82	728.83	274.99
Sharpsburg	5.130	2,150.14	1,575.16	574.98
Smithsburg	3.160	1,324.45	987.42	337.03
Williamsport	6.775	2,839.61	2,092.39	747.22
TOTAL	138.178	\$ 57,914.68	\$ 42,647.17	\$ 15,267.51
WICOMICO COUNTY:				
Delmar	5.440	\$ 2,280.07	\$ 1,672.65	\$ 607.42
Salisbury	42.774	17,927.91	16,679.99	1,247.92
TOTAL	48.214	\$ 20,207.98	\$ 18,352.64	\$ 1,855.34
WORCESTER COUNTY:				
Berlin	7.365	\$ 3,086.90	\$ 2,262.88	\$ 824.02
Ocean City	6.280	2,632.15	1,927.10	705.05
Pocomoke City	8.980	3,763.79	2,759.26	1,004.53
Snow Hill	7.395	3,099.47	2,277.50	821.97
TOTAL	30.020	\$ 12,582.31	\$ 9,226.74	\$ 3,355.57
TOTAL	990.659	\$416,866.40	\$311,615.79	\$105,250.61

EXHIBIT B, Schedule 1b

COUNTIES AND MUNICIPALITIES TAX REVENUES ALLOCATION FUND
STATEMENT SHOWING ALLOCATION OF 20% SHARE OF GASOLINE TAX AND MOTOR
VEHICLE REVENUE FUNDS TO COUNTIES AND MUNICIPALITIES
FOR THE FISCAL YEAR ENDED JUNE 30, 1948

	ROAD MILES		ALLOCATION BASED ON TOTAL COUNTY ROAD MILES				SHARE		
	COUNTIES (Exclud- ing Mu- nicipal- ities)	MUNIC- IPAL- ITIES	TOTAL	GASOLINE TAX	MOTOR VEHICLE REVENUE	MINIMUM SHARE ADJUST- MENT	TOTAL	COUNTIES	MUNICI- PALITIES
ALLEGANY COUNTY.	499.770	158.448	658.218	\$ 193,188.92	\$ 86,081.81	\$ 3,391.18	\$ 275,879.55	\$ 209,469.08	\$ 66,410.47
ANNE ARUNDEL COUNTY	622.368	19.470	641.838	188,381.35	83,939.62	3,303.79	269,014.18	260,853.70	8,160.48
BALTIMORE COUNTY.	1,340.460		1,340.460	393,428.96	175,305.47	6,903.13	561,828.30	561,828.30	
CALVERT COUNTY	181.287	10.760	192.047	56,366.36	25,115.92	989.44	80,482.84	75,982.99	4,509.85
CAROLINE COUNTY	463.115	25.250	488.365	143,336.57	63,868.41	2,516.09	204,688.89	194,105.83	10,583.06
CARROLL COUNTY	721.980	36.409	758.389	222,589.41	99,182.17	3,907.27	317,864.31	302,604.17	15,260.14
CECIL COUNTY.	438.114	22.261	460.375	135,121.42	60,207.88	2,371.88	192,957.42	183,627.15	9,330.27
CHARLES COUNTY	257.930	7.120	265.050	77,792.96	34,663.26	35,850.50	148,306.72	144,322.77	3,983.95
DORCHESTER COUNTY	483.400	32.292	515.692	151,357.12	67,442.24	2,656.88	216,142.48	202,607.90	13,534.58
FREDERICK COUNTY	1,010.896	84.431	1,095.327	321,481.71	143,246.95	5,643.19	459,085.47	423,697.79	35,387.68
GARRETT COUNTY	723.793	38.392	762.185	223,703.55	99,678.61	3,926.82	319,455.34	303,364.06	16,091.28
HARFORD COUNTY.	577.937	41.122	619.059	181,695.64	80,960.59	3,189.43	259,466.80	242,231.30	17,235.50
HOWARD COUNTY	286.000		286.000	83,941.84	37,403.11	1,473.49	119,871.46	119,871.46	
KENT COUNTY	230.944	9.230	240.174	70,491.78	31,409.97	13,750.28	115,652.03	111,217.47	4,444.56
MONTGOMERY COUNTY	718.549	79.370	797.919	234,191.58	104,351.91	4,110.93	334,432.56	301,166.13	33,266.43
PRINCE GEORGE'S COUNTY	479.756	157.697	637.453	187,094.34	83,366.15	3,284.20	267,176.29	201,080.59	66,095.70
QUEEN ANNE'S COUNTY	394.551	8.315	402.866	118,242.36	52,686.85	2,075.59	168,853.62	165,368.55	3,485.07
ST. MARY'S COUNTY	262.177	1.420	263.597	77,366.50	34,473.23	12,520.22	124,359.95	123,690.02	669.93
SOMERSET COUNTY	287.450	16.240	303.690	89,133.91	39,716.60	1,564.63	127,285.88	120,479.19	6,806.69
TALBOT COUNTY.	269.350	26.020	295.370	86,691.97	38,628.51	1,521.76	123,798.72	112,892.93	10,905.79
WASHINGTON COUNTY	623.698	138.178	761.876	223,612.85	99,638.21	3,925.23	319,325.83	261,411.15	57,914.68
WICOMICO COUNTY..	516.999	48.214	565.213	165,891.68	73,918.60	2,912.01	236,898.27	216,690.29	20,207.98
WORCESTER COUNTY..	445.140	30.020	475.160	139,460.86	62,141.49	2,448.03	199,154.29	186,571.98	12,582.31
TOTAL.....	11,835.664	990.659	12,826.323	\$3,764,563.64	\$1,677,427.56		\$5,441,991.20	\$5,025,124.80	\$416,866.40

ITALICS INDICATE RED FIGURES.

EXHIBIT B, Schedule 2

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE FISCAL YEAR ENDED JUNE 30, 1948
 COUNTY MAINTENANCE FUNDS

	RECEIPTS					TOTAL FUNDS AVAILABLE	DISBURSEMENTS				BALANCE, JUNE 30, 1948	
	BALANCE, JULY 1, 1947	REMITTANCES BY COUNTIES	REFUNDS OF EXPENDITURES	RENTAL OF COUNTY EQUIPMENT	TRANSFERS FROM COUNTIES AND MUNICIPALITIES TAX REVENUES ALLOCATION FUND		TOTAL	PAYMENTS TO COUNTIES	OTHER PAYMENTS	TRANSFERS TO COUNTY CONSTRUCTION FUNDS		TOTAL
ALLEGANY COUNTY	\$ 24,026.64					\$ 24,026.64			\$ 24,026.64	\$ 24,026.64		
ANNE ARUNDEL COUNTY	84,668.33					84,668.33		\$17,148.57	43,837.98	60,986.55	\$ 23,681.78	
BALTIMORE COUNTY	18,264.43					18,264.43					18,264.43	
CALVERT COUNTY	115.27	\$ 384.65	\$1,334.00		\$ 75,982.99	\$ 77,701.64		488.18		84,017.73	6,200.82	
CAROLINE COUNTY	26,416.47	129.99			194,105.83	194,235.82			26,416.47	137,265.81	83,386.48	
CARROLL COUNTY	5,179.37				5,413.37	5,413.37				234.00	234.00	
CECIL COUNTY	17,190.45		1,046.00		183,627.15	183,627.15		6,122.97		178,200.62	11,763.92	
CHARLES COUNTY	12,270.94				144,322.77	145,368.77				135,228.60	22,411.11	
DORCHESTER COUNTY	7,063.59	\$ 18,000.00			1,059.87	19,059.87		18,900.00		\$25,063.59		
FREDERICK COUNTY	19,070.61				3,747.15	3,747.15				170.61	19,070.61	
GARRETT COUNTY	3,747.15				1,755.46	1,755.46		5,250.00			5,250.00	
HARFORD COUNTY	3,494.54				1,755.46	1,755.46				4,668.81	4,668.81	
HOWARD COUNTY	4,668.81				111,207.47	111,207.47		4,668.81	121,332.85	187,188.81	12,080.91	
KENT COUNTY	75,981.34	1,120.77			111,207.47	1,120.77				5,925.52		
MONTGOMERY COUNTY	16,885.66				56,063.04	56,063.04						
PRINCE GEORGE'S COUNTY	53,980.20	500.00			165,368.55	165,368.55				1,970.88	2,082.84	
QUEEN ANNE'S COUNTY	48,386.59				123,690.02	123,690.02				554.39	158,264.49	
ST. MARY'S COUNTY	16,864.91		754.00		120,479.19	120,479.19				34,400.96	104,313.73	
SOMERSET COUNTY	10,278.29				112,892.93	112,892.93				3,726.19	142,581.29	
TALBOT COUNTY	59,965.41				216,680.29	216,680.29				7,492.78	256,406.58	
WASHINGTON COUNTY	245.96				186,571.98	186,571.98		245.96			245.96	
WICOMICO COUNTY	18,303.47	158.08			216,848.37	216,848.37		28,160.62		46,436.32	233,668.16	
WORCESTER COUNTY	15,158.61				186,571.98	186,571.98					141,889.00	
TOTAL	\$228,382.06	\$2,293.49	\$3,134.00	\$1,702,478.06	\$1,844,044.63	\$2,072,426.99	\$30,148.97	\$17,148.15	\$314,214.28	\$1,907,465.21	\$164,961.78	

ITALICS INDICATE RED FIGURES.

EXHIBIT B, Schedule 3

COUNTY CONSTRUCTION FUNDS
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE FISCAL YEAR ENDED JUNE 30, 1948

	RECEIPTS						TOTAL FUNDS AVAILABLE	DISBURSEMENTS	BALANCE, JUNE 30, 1948 (See schedule 3a for anticipated receipts and authorized expenditures)
	BALANCE, JULY 1, 1947	FEDERAL AID APPORTIONMENT BY STATE	REMITTANCES BY COUNTIES	REFUNDANCES OF EXPENDITURES	TRANSFERS FROM COUNTY MAINTENANCE FUNDS	TRANSFERS FROM COUNTIES AND MUNICIPALITIES TAX REVENUES ALLOCATION FUND				TOTAL
ALLEGANY COUNTY	\$ 17,058.13	\$ 25,604.43			\$ 24,026.64	\$ 9,469.08	\$ 59,100.15	\$ 36,288.69	\$ 39,869.59
ANNE ARUNDEL COUNTY	35,609.77	26,285.42			43,837.98	73,233.46	143,356.86	3,326.30	175,640.33
BALTIMORE COUNTY	336,452.54	57,541.88					393,994.42	203,363.39	190,631.03
CALVERT COUNTY	<i>2,180.29</i>						<i>2,180.29</i>		<i>2,180.29</i>
CAROLINE COUNTY	9,717.22	24,446.77			26,416.47		50,563.24	32,972.32	27,608.14
CARROLL COUNTY	34,544.65	44,331.09	\$ 8,237.00			89,483.01	142,051.10	258,781.75	82,186.00
CECIL COUNTY	71,368.65	29,690.26					29,690.26	77,932.17	23,126.74
CHARLES COUNTY	93,451.49	25,059.66					25,059.66	96,163.32	22,347.83
DORCHESTER COUNTY	56,346.24	27,987.85	67,242.56				95,230.41	160,019.14	8,442.49
FREDERICK COUNTY	<i>42,117.01</i>	56,792.83				96,795.34	56,792.83	37,109.25	<i>22,433.43</i>
GARRETT COUNTY	111,338.35	36,023.27					132,818.61	117,487.94	126,669.02
HARFORD COUNTY	5,094.44	36,568.05					244,156.96	109.66	41,552.83
HOWARD COUNTY	33,985.54	19,611.93					19,611.93	888.43	52,709.04
KENT COUNTY	43,618.32	19,543.82			121,332.85		140,876.67	134,130.62	50,364.37
MONTGOMERY COUNTY	35,284.20	37,929.99		65,197.69			103,127.68	2,782.65	135,629.23
PRINCE GEORGE'S COUNTY	43,272.52	33,231.31		\$276.01			167,891.42	195,877.33	14,786.61
QUEEN ANNE'S COUNTY	29,060.38	24,106.31			34,400.96		87,567.65	95,192.02	7,624.37
St. MARY'S COUNTY	<i>19.32</i>						<i>19.32</i>		<i>19.32</i>
SOMERSET COUNTY	35,625.94	17,909.50		200.26	17,763.06		35,872.82	73,903.82	2,405.06
TALBOT COUNTY	7,336.75						14,431.20	2,660.67	4,433.78
WASHINGTON COUNTY	32,907.11	37,317.10					70,224.21	67,294.12	2,930.09
WICOMICO COUNTY	50,805.04	27,443.06			46,436.32		146,571.14	144,456.86	2,114.28
WORCESTER COUNTY	36,346.01	26,557.81					62,903.82	81,923.11	19,019.29
TOTAL	\$1,060,233.17	\$633,982.34	\$310,507.22	\$848.32	\$314,214.28	\$268,980.89	\$1,528,533.05	\$1,822,663.56	\$766,102.66

NOTE—Federal aid apportionment by the State Roads Commission is contingent upon the payment of matching funds by the counties. ITALICS INDICATE RED FIGURES.

COUNTY CONSTRUCTION FUNDS

STATEMENT OF ANTICIPATED RECEIPTS IN CONNECTION WITH THE 1946-7-8 FEDERAL AID PROGRAM, CASH BALANCES, AND AUTHORIZED EXPENDITURES RELATED THERETO AS OF JUNE 30, 1948

	ANTICIPATED RECEIPTS (Assuming full participation by the counties in the 1946-7-8 Federal Aid Program)**			ACTUAL CASH BALANCE	TOTAL OF ACTUAL CASH BALANCE PLUS ANTICIPATED RECEIPTS	AUTHORIZED EXPENDITURES RELATED THERETO	BALANCE FOR FUTURE AUTHORIZATIONS
	FEDERAL AID APPORTIONMENT BY STATE	MATCHING FUNDS STILL REQUIRED FROM COUNTIES	TOTAL				
ALLEGANY COUNTY.....	\$ 117,624.56	\$101,331.69	\$ 218,956.25	\$ 39,869.59	\$ 258,825.84	\$ 8,015.81	\$ 250,810.03
ANNE ARUNDEL COUNTY.....	117,707.13		117,707.13	175,640.33	293,347.46		293,347.46
BALTIMORE COUNTY.....	252,009.64		252,009.64	190,631.03	442,640.67	435,423.39	7,217.28
CALVERT COUNTY.....				<i>2,180.29</i>	<i>2,180.29</i>		<i>2,180.29*</i>
CAROLINE COUNTY.....	99,868.45	26,304.49	126,172.94	27,608.14	153,781.08	53,934.49	99,846.59
CARROLL COUNTY.....	169,679.17		169,679.17	<i>82,186.00</i>	87,493.17	36,681.17	50,812.00
CECIL COUNTY.....	109,432.18	11,813.04	121,245.22	23,126.74	144,371.96	98,331.49	46,040.47
CHARLES COUNTY.....	81,389.62	11,708.39	93,098.01	22,347.83	115,445.84	112,289.52	3,156.32
DORCHESTER COUNTY.....	110,426.04		110,426.04	<i>8,442.49</i>	101,983.55	58,841.25	43,142.30
FREDERICK COUNTY.....	228,450.16		228,450.16	<i>22,433.43</i>	206,016.73		206,016.73
GARRETT COUNTY.....	150,884.46		150,884.46	126,669.02	277,553.48	313,048.67	<i>35,495.19*</i>
HARFORD COUNTY.....	139,450.57	192,155.77	331,606.34	41,552.83	373,159.17		373,159.17
HOWARD COUNTY.....	70,669.34	53,926.11	124,595.45	52,709.04	177,304.49		177,304.49
KENT COUNTY.....	66,397.20		66,397.20	50,364.37	116,761.57	55,409.85	61,351.72
MONTGOMERY COUNTY.....	158,477.48	120,714.62	279,192.10	135,629.23	414,821.33		414,821.33
PRINCE GEORGE'S COUNTY.....	133,364.50	67,973.53	201,338.03	14,786.61	216,124.64	125,929.52	90,195.12
QUEEN ANNE'S COUNTY.....	91,425.07		91,425.07	<i>7,624.37</i>	83,800.70	7,139.67	76,661.03
ST. MARY'S COUNTY.....				<i>19.32</i>	<i>19.32</i>		<i>19.32*</i>
SOMERSET COUNTY.....	68,348.09	18,870.83	87,218.92	<i>2,405.06</i>	84,813.86	57,770.91	27,042.95
TALBOT COUNTY.....	26,292.16	17,119.39	43,411.55	4,433.78	47,845.33	25,133.12	22,712.21
WASHINGTON COUNTY.....	153,864.91	169,216.98	323,081.89	2,930.09	326,011.98	7,016.39	318,995.59
WICOMICO COUNTY.....	113,629.34		113,629.34	2,114.28	115,743.62	36,711.91	79,031.71
WORCESTER COUNTY.....	103,473.80	79,502.04	182,975.84	<i>19,019.29</i>	163,956.55	9,667.55	154,289.00
TOTAL.....	\$2,562,863.87	\$870,636.88	\$3,433,500.75	\$766,102.66	\$4,199,603.41	\$1,441,344.71	\$2,758,258.70

* To be reimbursed from future share of tax revenues.

** Federal Aid apportionments by the State Roads Commission are contingent upon the payment of matching funds by the counties. Calvert and St. Mary's Counties decided not to participate in the 1946-7-8 Federal Aid Program. Talbot County decided not to participate in the 1946-7 Federal Aid Program.

ITALICS INDICATE RED FIGURES.

DEBT SERVICE FUNDS

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE FISCAL YEAR ENDED JUNE 30, 1948

	TOTAL	DEBT SERVICE FUNDS			DEBT SERVICE RESERVE FUNDS	
		4% BONDS OF 1933	REFUNDING AND IMPROVEMENT BONDS OF 1941	CHESAPEAKE BAY FERRY SYSTEM IMPROVEMENT BONDS OF 1945	REFUNDING AND IMPROVEMENT BONDS OF 1941	CHESAPEAKE BAY FERRY SYSTEM IMPROVEMENT BONDS OF 1945
BALANCE, JULY 1, 1947.....	\$ 800,751.73	\$10,400.00			\$672,894.01	\$117,457.72
RECEIPTS:						
Interest on United States Treasury Bonds.....	\$ 11,000.00				\$ 11,000.00	
Transfer of Tax Revenue from General Construction and Operating Fund.....	793,318.75		\$676,187.50	\$117,131.25		
TOTAL RECEIPTS.....	\$ 804,318.75		\$676,187.50	\$117,131.25	\$ 11,000.00	
TOTAL FUNDS AVAILABLE.....	\$1,605,070.48	\$10,400.00	\$676,187.50	\$117,131.25	\$683,894.01	\$117,457.72
DISBURSEMENTS:						
Redemption of Bonds.....	\$ 663,000.00		\$564,000.00	\$ 99,000.00		
Payment of Interest.....	130,318.75		112,187.50	18,131.25		
TOTAL DISBURSEMENTS.....	\$ 793,318.75		\$676,187.50	\$117,131.25		
BALANCE, JUNE 30, 1948.....	\$ 811,751.73	\$10,400.00			\$683,894.01	\$117,457.72

EXHIBIT C

COMBINED BALANCE SHEET, JUNE 30, 1947 (INCLUDING ALL FUNDS EXCEPT SUSQUEHANNA RIVER TOLL BRIDGE, POTOMAC RIVER TOLL BRIDGE, AND CHESAPEAKE BAY FERRY SYSTEM)

	TOTAL	GENERAL CONSTRUCTION AND OPERATING FUND	MAINTENANCE FUND	COUNTY MAINTENANCE FUNDS (Schedule 1)	COUNTY CONSTRUCTION FUNDS (Schedule 2)	BONDED DEBT AND DEBT SERVICE FUNDS (Schedule 3)	FIXED ASSETS (Schedule 4)
ASSETS							
CASH:							
With State Treasurer Working Fund:	\$ 16,322,099.27	\$11,488,268.97	\$2,744,454.34	\$228,382.06	\$1,060,233.17	\$ 900,751.73	
Payroll Office:	485,000.00	485,000.00					
Debt Service Funds with Fiscal Agents:	15,000.00	15,000.00					
Accounts Receivable:	69,158.75					69,158.75	
United States Government (Federal Aid) Others:	538,704.54	520,103.09			18,601.45		
Others:	20,457.62	20,457.62					
INVENTORIES OF MATERIALS AND SUPPLIES (Estimated valuation):	662,424.73	662,424.73					
PRELIMINARY CONSTRUCTION COSTS, ETC.:	1,039,836.88	1,039,836.88					
ROADS SYSTEM CONSTRUCTION AND OTHER WORK IN PROGRESS:	9,960,196.67	9,960,196.67					\$217,147,159.15
ROADS SYSTEM AND OTHER FIXED ASSETS (Book value)	217,147,159.15						
FUTURE TAX REVENUES AND EXISTING DEBT SERVICE RESERVE FUNDS ENCUMBERED FOR THE REDEMPTION OF OUTSTANDING BONDS:	7,897,000.00					7,897,000.00	
FUTURE RECEIPTS ENCUMBERED FOR THE COMPLETION OF AUTHORIZED PROJECTS—County Funds and Federal Aid Apportionments:	1,199,856.84			201,976.69	997,879.15		
TOTAL	\$255,356,884.45	\$24,191,287.96	\$2,744,454.34	\$430,358.75	\$2,076,713.77	\$8,766,910.48	\$217,147,159.15
LIABILITIES							
ACCOUNTS PAYABLE—Miscellaneous:	\$ 14,623.52	\$ 14,623.52					
Called Bonds and Interest Coupons Payable Through State Treasurer or Fiscal Agents:	79,558.75					\$ 79,558.75	
BONDS PAYABLE:	7,897,000.00					7,897,000.00	
Due to State Comptroller for Working Fund Advanced State Equity in Roads System Construction and Other Work in Progress:	500,000.00	500,000.00					
State Equity in Roads System and Other Fixed Assets:	9,960,196.67	9,960,196.67					\$217,147,159.15
RESERVES:	217,147,159.15						
Completion of authorized projects:	\$ 313,896.06	6,375,520.54		\$144,203.03	\$1,794,172.49	790,351.73	
Debt Service:	790,351.73						
Sign Permit Fund:	21,169.32		\$ 21,169.32				
Accounts receivable:	559,162.16	540,560.71					
Surplus Available for New Projects, etc.:	10,073,767.09	6,800,386.52	2,723,285.02	286,155.72	263,939.83		
TOTAL	\$255,356,884.45	\$24,191,287.96	\$2,744,454.34	\$430,358.75	\$2,076,713.77	\$8,766,910.48	\$217,147,159.15

EXHIBIT C, Schedule I

COUNTY MAINTENANCE FUNDS
COMBINED BALANCE SHEET, JUNE 30, 1947

	ASSETS			LIABILITIES		
	CASH WITH STATE TREASURER	FUTURE RECEIPTS ENCUMBERED FOR THE COMPLETION OF AUTHORIZED PROJECTS	TOTAL	RESERVE FOR COMPLETION OF AUTHORIZED PROJECTS	SURPLUS AVAILABLE FOR NEW PROJECTS, ETC.	TOTAL
ALLEGANY COUNTY.....	\$ 24,026.64		\$ 24,026.64	\$ 1,000.00	\$ 23,026.64	\$ 24,026.64
ANNE ARUNDEL COUNTY.....	84,668.33		84,668.33	39,925.92	44,742.41	84,668.33
BALTIMORE COUNTY.....	18,264.43		18,264.43		18,264.43	18,264.43
CALVERT COUNTY.....	115.27		115.27		115.27	115.27
CAROLINE COUNTY.....	26,416.47		26,416.47		26,416.47	26,416.47
CARROLL COUNTY.....	<i>5,179.37</i>	\$ 5,179.37				
CECIL COUNTY.....	<i>17,190.45</i>	23,243.82	6,053.37	6,053.37		6,053.37
CHARLES COUNTY.....	12,270.94		12,270.94	1,114.47	11,156.47	12,270.94
DORCHESTER COUNTY.....	7,063.59		7,063.59		7,063.59	7,063.59
FREDERICK COUNTY.....	19,070.61		19,070.61	18,900.00	170.61	19,070.61
GARRETT COUNTY.....	<i>3,747.15</i>	3,747.15				
HARFORD COUNTY.....	3,494.54		3,494.54		3,494.54	3,494.54
HOWARD COUNTY.....	4,668.81		4,668.81		4,668.81	4,668.81
KENT COUNTY.....	75,981.34		75,981.34		75,981.34	75,981.34
MONTGOMERY COUNTY.....	16,885.66		16,885.66	4,741.36	12,144.30	16,885.66
PRINCE GEORGE'S COUNTY.....	<i>53,980.20</i>	53,980.20				
QUEEN ANNE'S COUNTY.....	48,386.59		48,386.59		48,386.59	48,386.59
ST. MARY'S COUNTY.....	<i>16,864.91</i>	16,864.91				
SOMERSET COUNTY.....	10,278.29		10,278.29		10,278.29	10,278.29
TALBOT COUNTY.....	<i>59,955.41</i>	67,353.90	7,398.49	7,398.49		7,398.49
WASHINGTON COUNTY.....	245.96		245.96		245.96	245.96
WICOMICO COUNTY.....	18,303.47	27,926.07	46,229.54	46,229.54		46,229.54
WORCESTER COUNTY.....	15,158.61	3,681.27	18,839.88	18,839.88		18,839.88
TOTAL.....	\$228,382.06	\$201,976.69	\$430,358.75	\$144,203.03	\$286,155.72	\$430,358.75

ITALICS INDICATE RED FIGURES.

EXHIBIT C, Schedule 2

COUNTY CONSTRUCTION FUNDS
COMBINED BALANCE SHEET, JUNE 30, 1947

	ASSETS				LIABILITIES			TOTAL
	CASH WITH STATE TREASURER	AC-COUNTS RECEIVABLE FEDERAL AID APPORTIONMENTS	FUTURE RECEIPTS OF COUNTY FUNDS AND FEDERAL AID APPORTIONMENTS ENCUMBERED FOR THE COMPLETION OF AUTHORIZED PROJECTS	TOTAL	RESERVE FOR COMPLETION OF AUTHORIZED PROJECTS	RE-SERVE FOR AC-COUNTS RECEIVABLE	SURPLUS AVAILABLE FOR NEW PROJECTS, ETC.	
ALLEGANY COUNTY.....	\$ 17,058.13			\$ 17,058.13			\$ 17,058.13	\$ 17,058.13
ANNE ARUNDEL COUNTY...	35,609.77			35,609.77			35,609.77	35,609.77
BALTIMORE COUNTY.....	336,452.54			336,452.54	\$ 310,883.14		25,569.40	336,452.54
CALVERT COUNTY.....	<i>2,180.29</i>		\$ 2,180.29					
CAROLINE COUNTY.....	9,717.22		24,263.08	33,980.30	33,980.30			33,980.30
CARROLL COUNTY.....	34,544.65		153,750.14	188,294.79	188,294.79			188,294.79
CECIL COUNTY.....	71,368.65		91,466.48	162,835.13	162,835.13			162,835.13
CHARLES COUNTY.....	93,451.49		114,980.17	208,431.66	208,431.66			208,431.66
DORCHESTER COUNTY.....	56,346.24		100,908.71	157,254.95	157,254.95			157,254.95
FREDERICK COUNTY.....	<i>42,117.01</i>		53,132.38	11,015.37	11,015.37			11,015.37
GARRETT COUNTY.....	111,338.35			111,338.35			111,338.35	111,338.35
HARFORD COUNTY.....	5,094.44			5,094.44			5,094.44	5,094.44
HOWARD COUNTY.....	33,985.54			33,985.54			33,985.54	33,985.54
KENT COUNTY.....	43,618.32		98,594.84	142,213.16	142,213.16			142,213.16
MONTGOMERY COUNTY.....	35,284.20			35,284.20			35,284.20	35,284.20
PRINCE GEORGE'S COUNTY	43,272.52		70,480.63	113,753.15	113,753.15			113,753.15
QUEEN ANNE'S COUNTY...	29,060.38		57,295.15	86,355.53	86,355.53			86,355.53
ST. MARY'S COUNTY.....	<i>19.32</i>		19.32					
SOMERSET COUNTY.....	35,625.94		63,510.26	99,136.20	99,136.20			99,136.20
TALBOT COUNTY.....	<i>7,336.75</i>		7,336.75					
WASHINGTON COUNTY.....	32,907.11		40,457.35	73,364.46	73,364.46			73,364.46
WICOMICO COUNTY.....	50,805.04		71,323.25	122,128.29	122,128.29			122,128.29
WORCESTER COUNTY.....	36,346.01		48,180.35	84,526.36	84,526.36			84,526.36
UNDISTRIBUTED (Appor- tioned on a road mileage basis when realized).....		\$18,601.45		18,601.45		\$18,601.45		18,601.45
TOTAL.....	\$1,060,233.17	\$18,601.45	\$997,879.15	\$2,076,713.77	\$1,794,172.49	\$18,601.45	\$263,939.83	\$2,076,713.77

ITALICS INDICATE RED FIGURES.

**BONDED DEBT AND DEBT SERVICE FUNDS
COMBINED BALANCE SHEET, JUNE 30, 1947**

	TOTAL	BONDED DEBT FUNDS		DEBT SERVICE FUNDS			DEBT SERVICE RESERVE FUNDS	
		REFUNDING AND IMPROVEMENT BONDS OF 1941	CHESAPEAKE BAY FERRY SYSTEM IMPROVEMENT BONDS OF 1945	4% BONDS OF 1933	REFUNDING AND IMPROVEMENT BONDS OF 1941	CHESAPEAKE BAY FERRY SYSTEM IMPROVEMENT BONDS OF 1945	REFUNDING AND IMPROVEMENT BONDS OF 1941	CHESAPEAKE BAY FERRY SYSTEM IMPROVEMENT BONDS OF 1945
ASSETS								
CASH WITH STATE TREASURER...	\$ 800,751.73			\$10,400.00			\$672,894.01	\$117,457.72
DEBT SERVICE FUNDS WITH FISCAL AGENTS.....	69,158.75			1,600.00	\$58,808.75	\$8,750.00		
FUTURE TAX REVENUES AND EXISTING DEBT SERVICE RESERVE FUNDS ENCUMBERED FOR THE REDEMPTION OF OUTSTANDING BONDS.....	7,897,000.00	\$6,397,000.00	\$1,500,000.00					
TOTAL.....	\$8,766,910.48	\$6,397,000.00	\$1,500,000.00	\$12,000.00	\$58,808.75	\$8,750.00	\$672,894.01	\$117,457.72
LIABILITIES								
CALLED BONDS AND INTEREST COUPONS PAYABLE THROUGH STATE TREASURER OR FISCAL AGENTS.....	\$ 79,558.75			\$12,000.00	\$58,808.75	\$8,750.00		
BONDS PAYABLE.....	7,897,000.00	\$6,397,000.00	\$1,500,000.00					
DEBT SERVICE RESERVES.....	790,351.73						\$672,894.01	\$117,457.72
TOTAL.....	\$8,766,910.48	\$6,397,000.00	\$1,500,000.00	\$12,000.00	\$58,808.75	\$8,750.00	\$672,894.01	\$117,457.72

NOTE—At June 30, 1947, certain revenue funds of the Commission were contingently pledged to secure the payment of outstanding Chesapeake Bay Ferry System 1½% Revenue Bonds of 1941 totaling \$809,000.00, and interest thereon.

STATEMENT OF ROADS SYSTEM AND OTHER FIXED ASSETS FOR THE FISCAL YEAR ENDED JUNE 30, 1947

	BALANCE, JULY 1, 1946	ADDITIONS			DEDUCTIONS	BALANCE, JUNE 30, 1947
		GENERAL CONSTRUCTION AND OPERATING FUND	MAINTENANCE FUND	TOTAL		
ROADS SYSTEM:						
Roads (excludes Defense Access Roads—Baltimore City).....	\$183,465,212.30	\$5,548,690.30		\$5,548,690.30		\$189,013,902.60
Bridges.....	16,068,785.57	410,745.24		410,745.24		16,479,530.81
Grade Eliminations.....	7,066,485.24					7,066,485.24
TOTAL ROADS SYSTEM.....	\$206,600,483.11	\$5,959,435.54		\$5,959,435.54		\$212,559,918.65
OTHER FIXED ASSETS:						
Lands and Buildings.....	\$ 627,913.88	\$ 3,383.45		\$ 3,383.45	\$ 495.00	\$ 630,802.33
Accounting and Commercial Properties.....	95,535.60		\$ 6,179.64	6,179.64		101,715.24
Operating Engineers Properties.....	107,853.26		9,056.58	9,056.58		116,909.84
Plans and Survey Properties.....	56,552.51		7,987.43	7,987.43		64,539.94
Sign and Repair Shop Properties.....	163,693.42		14,524.38	14,524.38		178,217.80
Laboratory Properties.....	30,666.45		1,709.72	1,709.72		32,376.17
Transportation Equipment.....	119,923.31		75,105.32	75,105.32	18,580.52	176,448.11
Construction Equipment.....	2,591,152.72		111,789.52	111,789.52	73,076.91	2,629,865.33
Small Tools and Equipment.....	442,529.25		18,147.07	18,147.07	2,318.75	458,357.57
Signs and Markers.....	189,683.58		8,324.59	8,324.59		198,008.17
TOTAL OTHER FIXED ASSETS.....	\$ 4,425,503.98	\$ 3,383.45	\$252,824.25	\$ 256,207.70	\$94,471.18	\$ 4,587,240.50
TOTAL.....	\$211,025,987.09	\$5,962,818.99	\$252,824.25	\$6,215,643.24	\$94,471.18	\$217,147,159.15

NOTES—This statement does not include construction work in progress.
The balance of \$217,147,159.15 at June 30, 1947, is apparently overstated as the result of unrecorded dispositions over a period of years.

EXHIBIT D

CONDENSED STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE FISCAL YEAR ENDED JUNE 30, 1947
(INCLUDING ALL FUNDS EXCEPT SUSQUEHANNA RIVER TOLL BRIDGE, POTOMAC RIVER TOLL BRIDGE, AND CHESAPEAKE BAY FERRY SYSTEM)

	TOTAL	ELIMINATIONS	GENERAL CONSTRUCTION AND OPERATING FUND	MAINTENANCE FUND	BALTIMORE CITY FUND	COUNTY MAINTENANCE FUNDS (Schedule 1)	COUNTY CONSTRUCTION FUNDS (Schedule 2)	DEBT SERVICE FUNDS (Schedule 3)
BALANCE, JULY 1, 1946.....	\$17,533,793.71		\$14,649,026.85	\$ 14,091.72	\$ 1,046.69	\$ 71,844.26	\$1,380,242.55	\$1,417,541.64
RECEIPTS:								
One and Four-tenths Mills of the Two Cent Gasoline Tax.....	\$ 506,952.39							\$506,952.39
Seventy Per Cent Share of the Proceeds from the Two Cent Gasoline Tax.....	4,700,756.18		\$4,700,756.18					
Portion of the One and One-half Cent Gasoline Tax for Incorporated Towns.....	8,015.59		8,015.59					
Seventy Per Cent Share of the Proceeds from the One and One-half Cent Gasoline Tax.....	3,774,884.43					\$3,774,884.43		
Thirty Per Cent Share of the Proceeds from the One and One-half Cent Gasoline Tax.....	1,617,807.65				\$1,617,807.65			
Eighty Per Cent Share of the Proceeds from the One-half Cent Gasoline Tax.....	1,444,463.67		1,426,338.67					18,125.00
License Fees and Franchise Taxes on Trucks and Commercial Vehicles.....	2,346,869.66							2,346,869.66
Seventy Per Cent Share of the Proceeds from Motor Vehicle Fees.....	2,394,954.43		2,394,034.43			920.00		
Eighty Per Cent Share of the Proceeds from Motor Vehicle Fines.....	370,718.17		370,718.17					
Issuance of Sign Licenses.....	3,004.21		3,004.21					
Issuance of Sign Permits.....	10,310.00		4,600.00	\$10,310.00				
Issuance of Hauling Permits.....	4,600.00		4,600.00					
Sale of Specifications.....	4,047.00		4,047.00					
Sale of New, Old, and Scrap Materials, and Miscellaneous Income.....	38,262.94		38,091.69	171.25				
Rentals.....	4,536.50		4,536.50					
Interest on United States Treasury Bonds.....	11,000.00							11,000.00
Unclaimed Wages.....	117.50		117.50					
Federal Aid.....	1,404,916.24		1,316,593.46				\$88,322.78	
County Remittances to Supplement Funds Available for County Maintenance and Construction Costs.....	478,793.09					91,941.31	386,851.78	
Refunds of Expenditures, Miscellaneous Cost Recoveries, Etc.....	79,477.62		63,656.62	12,653.72		3,167.28		
Reimbursements from Toll Facility Systems.....	416,786.60		416,786.60			2,568.00		
Rental of County Equipment.....		\$ 2,568.00						
Transfers: From General Construction and Operating Fund.....		6,309,553.34		6,309,553.34				

EXHIBIT D, Schedule 1

COUNTY MAINTENANCE FUNDS
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE FISCAL YEAR ENDED JUNE 30, 1947

	RECEIPTS							DISBURSEMENTS					BALANCE, JUNE 30, 1947	
	BALANCE, JULY 1, 1946	SHARE OF LATERAL ROAD (1/2 CENT) GASOLINE TAX, ETC.	REMITTANCES BY COUNTIES	REFUNDS OF EXPENDITURES	RENTAL OF COUNTY EQUIPMENT	TRANSFERS FROM COUNTY CONSTRUCTION FUNDS	TOTAL	TOTAL FUNDS AVAILABLE	MAINTENANCE COSTS	PAYMENTS TO COUNTIES	OTHER PAYMENTS	TRANSFERS TO COUNTY CONSTRUCTION FUNDS		TOTAL
ALLEGANY COUNTY.....	\$26,599.71	141,970.25					\$ 141,970.25	168,569.96		\$ 141,893.32	2,650.00		\$ 144,543.32	\$ 24,026.64
ANNE ARUNDEL COUNTY.....	21,816.82	145,746.04	\$63,213.00				208,959.04	230,775.86		63,629.27	9,605.26	\$ 72,873.00	146,107.53	84,668.33
BALTIMORE COUNTY.....	6,160.76	319,055.47					319,055.47	312,894.71		294,630.28			294,630.28	18,264.43
CALVERT COUNTY.....	4,608.44	57,392.25		\$ 584.74	\$1,000.00	\$22,216.62	81,193.61	76,585.17	\$ 73,045.95	3,423.95			76,469.90	115.27
CAROLINE COUNTY.....	16,689.77	135,551.37					135,551.37	152,241.14	88,732.38	37,092.29			125,824.67	26,416.47
CARROLL COUNTY.....	15,915.29	245,804.86					245,804.86	261,720.15		220,556.53		46,342.99	266,899.52	5,179.37
CECIL COUNTY.....	39,280.44	164,625.07			724.00	29,418.78	169,092.39	141,184.83	127,077.78	1,836.11		30,000.00	128,913.89	17,190.45
CHARLES COUNTY.....	27,907.56	138,949.61					155,185.58	153,893.63	146,830.04				146,830.04	7,063.59
DORCHESTER COUNTY.....	1,291.95	155,185.58					314,902.08	330,303.62			9,500.00		311,233.01	19,070.61
FREDERICK COUNTY.....	15,401.54	314,902.08					199,740.05	182,189.93				49,084.31	185,937.08	3,747.15
GARRETT COUNTY.....	17,332.42	199,740.05					202,760.70	185,428.28					181,933.74	3,494.54
HARFORD COUNTY.....	4,387.52	202,760.70					108,743.18	113,130.70					108,461.89	4,668.81
HOWARD COUNTY.....	4,387.52	108,743.18					108,365.57	165,636.40	74,282.78				89,655.06	75,981.34
KENT COUNTY.....	57,270.83	108,365.57					210,312.31	219,803.16				15,372.28	202,917.50	16,885.66
MONTGOMERY COUNTY.....	9,490.85	210,312.31					184,259.27	101,945.67	126,262.33		695.29		155,925.87	53,980.20
PRINCE GEORGE'S COUNTY.....	82,313.60	184,259.27					133,663.48	149,456.42	101,069.83		29,663.54		101,069.83	48,386.59
QUEEN ANNE'S COUNTY.....	15,792.94	133,663.48					129,751.75	86,321.69	103,186.60				103,186.60	16,864.91
ST. MARY'S COUNTY.....	43,430.06	116,672.39			844.00	12,235.36	99,303.66	113,177.29	102,899.00				102,899.00	10,278.29
SOMERSET COUNTY.....	13,873.63	99,303.66					109,518.33	96,706.91	137,790.68				156,662.32	59,955.41
TALBOT COUNTY.....	12,811.42	86,465.88					206,914.07	207,047.91	130,798.54		18,871.64		206,801.95	245.96
WASHINGTON COUNTY.....	133.84	206,914.07					154,714.95	172,408.87	140,516.50				154,105.40	18,303.47
WICOMICO COUNTY.....	17,683.92	152,164.91		2,550.04			152,964.74	183,868.23		206,801.95			168,709.62	15,158.61
WORCESTER COUNTY.....	30,903.49	147,286.38		32.50			\$2,568.00	\$63,870.76	\$3,937.35	\$1,519,546.51	\$188,879.92	\$240,858.36	\$3,780,813.98	\$228,382.06
TOTAL.....	\$71,844.26	\$3,775,804.43	\$91,941.31	\$3,167.28	\$2,568.00	\$63,870.76	\$3,937,351.78	\$4,009,196.04	\$1,519,546.51	\$1,831,529.19	\$188,879.92	\$240,858.36	\$3,780,813.98	\$228,382.06

ITALICS INDICATE RED FIGURES.

EXHIBIT D, Schedule 2

COUNTY CONSTRUCTION FUNDS
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE FISCAL YEAR ENDED JUNE 30, 1947

	BALANCE, JULY 1, 1946	RECEIPTS				TOTAL FUNDS AVAILABLE	DISBURSEMENTS			BALANCE, JUNE 30, 1947
		FEDERAL AID APPOR- TIONMENT BY STATE	REMITTANCES BY COUNTIES	TRANSFERS FROM COUNTY MAINTENANCE FUNDS	TOTAL		CONSTRUC- TION COSTS	TRANSFERS TO COUNTY MAINTENANCE FUNDS	TOTAL	
ALLEGANY COUNTY	\$ 2,185.04	\$ 3,567.07	\$ 23,697.25		\$ 27,264.32	\$ 8,021.15		\$ 8,021.15	\$ 17,058.13	
ANNE ARUNDEL COUNTY	115,952.36	3,661.94	93,000.00		169,534.94	249,877.30		249,877.30	35,609.77	
BALTIMORE COUNTY	355,528.60	8,016.40			8,016.40	27,092.46		27,092.46	336,452.54	
CALVERT COUNTY	24,254.76					4,218.43	\$22,216.62		2,180.29	
CAROLINE COUNTY	108,510.25	3,405.78			3,405.78	102,198.81		102,198.81	9,717.22	
CARROLL COUNTY	101,847.11	6,175.96	46,760.53		99,279.48	166,581.94		166,581.94	34,544.65	
CECIL COUNTY	87,799.36	4,136.28	30,000.00		34,136.28	50,566.99		50,566.99	71,368.65	
CHARLES COUNTY	130,821.02	3,491.17			3,491.17	11,441.92		11,441.92	93,451.49	
DORCHESTER COUNTY	101,472.08	3,899.09			3,899.09	49,024.93	29,418.78	49,024.93	56,346.24	
FREDERICK COUNTY		7,912.05			7,912.05	50,029.06		50,029.06	42,117.01	
GARRETT COUNTY	59,627.12	5,018.56	49,084.31		54,102.87	2,391.64		2,391.64	111,338.35	
HARFORD COUNTY		5,094.44			5,094.44				5,094.44	
HOWARD COUNTY	5,273.39	2,732.22	17,000.00		46,918.00	7,659.07		7,659.07	33,985.54	
KENT COUNTY	55,351.65	2,722.72	15,372.28		18,095.00	29,828.33		29,828.33	43,618.32	
MONTGOMERY COUNTY	30,000.00	5,284.20			5,284.20				35,284.20	
PRINCE GEORGE'S COUNTY	5,173.61	4,629.60	57,831.98		62,461.58	14,015.45		14,015.45	43,272.52	
QUEEN ANNE'S COUNTY	88,552.42	3,358.34			3,358.34	62,850.38		62,850.38	29,060.38	
ST. MARY'S COUNTY	14,269.05					2,053.01		2,053.01	19.32	
SOMERSET COUNTY	40,457.38	2,495.05	12,464.44		14,959.49	19,790.93	12,235.36	14,288.37	35,625.94	
TALBOT COUNTY	27,212.58		10,645.54		10,645.54	45,194.87		45,194.87	7,336.75	
WASHINGTON COUNTY	2,747.00	5,198.82	40,744.33		43,196.15	10,289.04		10,289.04	32,907.11	
WICOMICO COUNTY	38,919.68	3,823.21	39,923.57		43,746.78	31,861.42		31,861.42	50,805.04	
WORCESTER COUNTY	15,046.17	3,699.88	44,784.14		48,484.02	27,184.18		27,184.18	36,346.01	
TOTAL	\$1,380,242.55	\$88,322.78	\$386,851.78	\$240,858.36	\$716,032.92	\$972,171.54	\$63,870.76	\$1,036,042.30	\$1,060,233.17	

NOTE—Federal aid apportionment by the State Roads Commission is contingent upon the payment of matching funds by the counties.
 ITALICS INDICATE RED FIGURES.

EXHIBIT D, Schedule 3

DEBT SERVICE FUNDS
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS FOR THE FISCAL YEAR
ENDED JUNE 30, 1947

	TOTAL	DEPT SERVICE FUNDS			DEPT SERVICE RESERVE FUNDS	
		4% BONDS OF 1933	REFUNDING AND IMPROVEMENT BONDS OF 1941	CHESAPEAKE BAY FERRY SYSTEM IMPROVEMENT BONDS OF 1945	REFUNDING AND IMPROVEMENT BONDS OF 1941	CHESAPEAKE BAY FERRY SYSTEM IMPROVEMENT BONDS OF 1945
BALANCE, JULY 1, 1946	\$1,417,541.64	\$24,786.16	\$ 613,403.75		\$661,894.01	\$117,457.72
RECEIPTS:						
Franchise Tax and Truck License Fees	\$2,346,869.66		\$2,346,869.66			
\$.0014 of 2¢ Gasoline Tax	506,952.39		506,952.39			
Portion of ½¢ Gasoline Tax	18,125.00			\$18,125.00		
Interest on Investments (\$550,000.00 United States Treasury Bonds, 2%)	11,000.00				\$ 11,000.00	
TOTAL RECEIPTS	\$2,882,947.05		\$2,853,822.05	\$18,125.00	\$ 11,000.00	
TOTAL FUNDS AVAILABLE	\$4,300,488.69	\$24,786.16	\$3,467,225.80	\$18,125.00	\$672,894.01	\$117,457.72
DISBURSEMENTS AND TRANSFERS:						
Redemption of Bonds	\$ 549,000.00		\$ 549,000.00			
Payment of Interest	141,442.50		123,317.50	\$18,125.00		
Transfer to Baltimore City Fund	741,260.04	\$ 4,315.85	736,944.19			
Transfer to General Construction and Operating Fund	2,068,034.42	10,070.31	2,057,964.11			
TOTAL DISBURSEMENTS AND TRANSFERS	\$3,499,736.96	\$14,386.16	\$3,467,225.80	\$18,125.00		
BALANCE, JUNE 30, 1947	\$ 800,751.73	\$10,400.00			\$672,894.01	\$117,457.72

STATEMENT OF FEDERAL AID APPROPRIATION ACCOUNTS FOR THE FISCAL YEARS ENDED JUNE 30, 1947 AND 1948

	RECEIPTS				BALANCE, JUNE 30, 1948		
	BALANCE, JULY 1, 1946	FISCAL YEAR ENDED (Schedule 1)		TOTAL	UNDER PROJECT AGREEMENTS (Schedule 1)		AVAILABLE FOR PROJECT AGREEMENTS
		JUNE 30, 1947	JUNE 30, 1948		EARNED— UNCOL- LECTED	UNEARNED	
1936 APPROPRIATION:							
Emergency Relief—Works Progress—Grade Highways (W.P.G.H.).....	\$ 178,408.19		\$ 110,536.78	\$ 110,536.78	\$ 41,503.37	\$ 26,368.04	
Emergency Relief—Works Progress—Grade Secondary (W.P.G.S.).....	3,016.92	\$ 3,016.92		3,016.92			
Total Emergency Relief—Grade.....	\$ 175,391.27	\$ 3,016.92	\$ 110,536.78	\$ 107,519.86	\$ 41,503.37	\$ 26,368.04	
Emergency Relief—Highways (E.R.H.) Flood Relief.....	423,173.60	29,256.00		29,256.00	393,917.60		
Total 1936 Appropriation.....	\$ 598,564.87	\$ 26,239.08	\$ 110,536.78	\$ 136,775.86	\$ 435,420.97	\$ 26,368.04	
1940 APPROPRIATION:							
Regular Federal Aid.....	\$ 105,500.00					\$ 105,500.00	
Federal Aid Highway Act—Grade Crossings (F.A.G.)....	10,132.25	\$ 7,907.70	\$ 2,224.55	\$ 10,132.25			
Total 1940 Appropriation.....	\$ 115,632.25	\$ 7,907.70	\$ 2,224.55	\$ 10,132.25		\$ 105,500.00	
1941 APPROPRIATION:							
Regular Federal Aid.....	\$ 66,652.47				\$ 65,597.75	\$ 1,054.72	
Federal Aid Highway Act—Grade Crossings (F.A.G.)....	147,746.50	\$ 2,167.26	\$ 103,859.62	\$ 106,026.88	25,511.55	16,208.07	
Federal Aid Highway Act—Secondary (F.A.S.)....	710.02						\$ 710.02
Total 1941 Appropriation.....	\$ 215,108.99	\$ 2,167.26	\$ 103,859.62	\$ 106,026.88	\$ 91,109.30	\$ 17,262.79	\$ 710.02
1942 APPROPRIATION:							
Regular Federal Aid.....	\$ 71,962.51		\$ 38,300.00	\$ 38,300.00	\$ 33,018.21	\$ 644.30	
Federal Aid Highway Act—Grade Crossings (F.A.G.)....	12,643.51		7,821.26	7,821.26	2,948.80	1,873.45	
Defense Access Roads and Bridges.....	1,852,276.77	\$ 152,988.21	\$ 14,850.29	967,838.50	859,723.22	24,715.05	
Total 1942 Appropriation.....	\$ 1,936,882.79	\$ 152,988.21	\$ 860,971.55	\$ 1,013,959.76	\$ 895,690.23	\$ 27,232.80	
1943 APPROPRIATION:							
Regular Federal Aid.....	\$ 125,629.02		\$ 6,440.64	\$ 6,440.64	\$ 60,386.18	\$ 3,300.03	\$ 55,502.17
Federal Aid Highway Act—Grade Crossings (F.A.G.)....	175,715.37		64,369.59	64,369.59	22,487.74	32,946.97	55,911.07
Federal Aid Highway Act—Secondary (F.A.S.)....	143,561.88	\$ 4,848.81		4,848.81	29,160.00	88,534.45	21,018.62
Postwar Studies and Investigations.....	184,659.11		14,610.15	14,610.15	27,475.41	142,573.55	
Total 1943 Appropriation.....	\$ 629,565.38	\$ 4,848.81	\$ 85,420.38	\$ 90,269.19	\$ 139,509.33	\$ 267,355.00	\$ 132,431.86
1946-7-8 APPROPRIATION:							
Postwar Primary (1946—\$1,830,936, 1947—\$1,836,150, 1948—\$1,811,478).....	\$ 5,478,564.00	\$ 1,115,896.46	\$ 281,662.00	\$ 1,397,558.46	\$ 538,806.07	\$ 919,776.00	\$ 2,622,423.47
Postwar Secondary (1946—\$1,170,515, 1947—\$1,173,982, 1948—\$1,158,179).....	3,502,676.00	94,868.72	680,969.21	775,837.93	283,757.25	552,132.55	1,890,948.27
Postwar Urban (1946—\$1,790,081, 1947—\$1,790,081, 1948—\$1,767,131).....	5,347,293.00					2,397,352.00	2,949,941.00
Total 1946-7-8 Appropriation.....	\$ 14,328,533.00	\$ 1,210,765.18	\$ 962,631.21	\$ 2,173,396.39	\$ 822,563.32	\$ 3,869,260.55	\$ 7,463,312.74
TOTAL.....	\$17,824,287.28	\$1,404,916.24	\$2,125,644.09	\$3,530,560.33	\$2,384,293.15	\$4,312,979.18	\$7,596,454.62

NOTE—The status of the \$7,596,454.62 available for project agreements is as follows:

In the planning, surveying and engineering stage.....	\$1,424,814.48
Specific projects programmed and under consideration.....	5,636,952.00
Unprogrammed.....	534,688.14

ITALICS INDICATE RED FIGURES.

EXHIBIT E, Schedule 1

**STATEMENT OF FEDERAL AID RECEIPTS, BY PROJECT AGREEMENTS, FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948**

PROJECT NUMBER	PROJECT DESCRIPTION	APPROPRIATION	TOTAL AGREEMENT	RECEIPTS TO JULY 1, 1946		RECEIPTS FISCAL YEAR ENDED		BALANCE, JUNE 30, 1948, UNDER PROJECT AGREEMENT	
				June 30, 1947	June 30, 1948	June 30, 1947	June 30, 1948	Earned—Uncollected	Unearned
A 298	Westernport (Washington St)	1940 F.A.G.	\$ 2,224.55			\$ 2,224.55			
A 381-1	Vocke Road	1946-7-8 F.A.S.	15,000.00			11,668.80		1,081.20	2,250.00
AA 200-1,-3	Grade Elimination at Odenton and Approaches	1936 W.P.G.S.	3,016.92						
AA 303-1	Laurel-Fort Meade Road at Prince George's County line—Construction of roadway								
AA 303-3	Bridge over Patuxent River on Fort Meade to Laurel Road	1942 D.A.	342,000.00			290,700.00		51,300.00	
AA 324	Odenton to Jessup Road	1942 D.A.	105,288.91	\$ 95,760.00		9,528.91			
AA 348	Parole to Ritchie Highway and Severn River Bridge—Preliminary	1942 D.A.	305,000.00	250,100.00				54,900.00	
AA 368-2	Dual Highway along Baltimore to Washington Freeway	1942 D.A.	24,121.57			24,121.57			
B 333-1	Eastern Avenue, City line to Back River—Construction of roadway	1946-7-8 U.	712,500.00						712,500.00
B 333-2	Eastern Avenue, City line to Back River—Construction of roadway	1942 D.A.	425,037.88	382,534.09				42,503.79	
B 333-3	Eastern Avenue, Back River to Marlyn Avenue—Bridge	1942 D.A.	674,946.23	690,982.65					
B 333-4	Construction	1942 D.A.	335,108.02	280,711.69				54,396.33	
B 333-5	Eastern Avenue at Martin's Plant	1942 D.A.	208,847.93	200,780.40					
B 392-2	Eastern Avenue, Marlyn Avenue to Martin Cloverleaf—Relocation	1942 D.A.	464,901.46	406,461.70					
B 392-2	Wilkens Avenue to Washington Boulevard—Surfacing		650,000.00						650,000.00
B 392-3	Bridge over Sulphur Springs Road at Arbutus—Construction	1946-7-8 U.	64,250.00						64,250.00
B 392-4	Bridge over Herbert Run at Winans—Construction	1946-7-8 U.	56,900.00						56,900.00
B 463-1	North Point Road, Wise Avenue to Moffett Avenue	1942 D.A.	547,034.89	508,400.00		38,634.89			
B 463-2	North Point Road, Moffett Avenue to City line—Relocation	1942 D.A.	1,074,000.00	912,900.00				161,100.00	
B 470-3	Butler Road—Bridge over Western Maryland R. R.	1946-7-8 F.A.S.	220,000.00			110,260.00		50,340.00	59,400.00
B 500-2	Pulaski Highway—Golden Ring to Baltimore City line—Resurfacing	1946-7-8 F.A.P.	265,000.00			212,000.00		50,350.00	2,650.00
B 534	M. & P. R. R. Woodbrook—Flashing light signal	1941 F.A.G.	2,167.26			2,167.26			
B 577-1	Hollins Ferry Road—Grading, draining, and surfacing		510,000.00						510,000.00
C 164-1	Solomons Island Road—St. Leonard Creek toward Lusby	1946-7-8 U.							
C 164-3	Prince Frederick toward Solomons Island	1943 F.A.P.	106,000.00	91,160.00		14,840.00			
Co 189	Flashing Light Signal on Route No. 313—Federalburg	1942 F.A.P.	3,000.00			3,000.00			
Cl 278-1	Trevanion Road	1941 F.A.G.	5,078.39			5,078.39			
Cl 279-1	Bachman Mills to Melrose Road	1946-7-8 F.A.S.	31,000.00			23,250.00		5,890.00	1,860.00
Cl 283-1	Washington Road (Barrett South)	1946-7-8 F.A.S.	49,773.78			12,480.00		5,573.78	
			15,900.00					7,632.00	8,268.00

STATEMENT OF FEDERAL AID RECEIPTS, BY PROJECT AGREEMENTS, FOR THE FISCAL YEARS ENDED JUNE 30, 1947 AND 1948

NUMBER	PROJECT DESCRIPTION	APPROPRIATION	TOTAL AGREEMENT	RECEIPTS TO		RECEIPTS FISCAL YEAR ENDED		BALANCE, JUNE 30, 1948, UNDER PROJECT AGREEMENT	
				July 1, 1946	June 30, 1947	June 30, 1947	June 30, 1948	Earned	Unearned
M 388	Flashing light signal at Halpine—B. & O. R. R.	1943 F.A.G.	4,450.00			4,450.00			
M 429 X	Flashing lights and gates at B. & O. R. R., St. John's Road	1943 F.A.G.	8,660.00						
P 430	Contee—Flashing lights	1940 F.A.G.	3,178.84		3,178.84				8,660.00
P 452-4	Bridge over B. & O. R. R. tracks from Fort Meade to Laurel Road	1942 D.A.	76,911.00	62,480.00				21,000.00	
P 477	Half Pond Road	1942 D.A.	21,000.00					1,365.00	
P 558	Gunpowder Road	1946-7-8 F.A.S.	19,500.00			15,600.00		1,365.00	2,535.00
P 560	Woodyard Road	1946-7-8 F.A.S.	21,375.00			2,778.75		10,901.25	7,695.00
P 561	Rosaryville Road	1946-7-8 F.A.S.	23,500.00			18,314.84		4,950.16	235.00
P 571	Dr. Fox's Road	1946-7-8 F.A.S.	10,900.00					9,047.00	1,853.00
P 572	Hopkins Farm Road	1946-7-8 F.A.S.	6,800.00					612.00	1,700.00
Q 113-2	Centerville to Ruthsburg Road	1946-7-8 F.A.S.	27,250.00					25,615.00	1,635.00
Q 155-1	McGinnes Corner Road	1946-7-8 F.A.S.	10,915.35		10,915.35				
Q 156-3	Barlay to Church Hill Road	1946-7-8 F.A.S.	5,500.00			5,500.00			
Q 175-1	Ingleside to Roe	1946-7-8 F.A.S.	2,444.36			2,444.36			
SM 252	Three Notch Road—Charlotte Hall to Mechanicsville	1942 D.A.	437,920.33	394,800.00		43,120.33		45,240.00	
SM 253	Three Notch Road—Turner toward Hillsville	1942 D.A.	377,000.00	331,760.00					
SM 254	Three Notch Road near Hillsville toward Clark's Landing	1942 D.A.	349,000.00	299,897.00				49,103.00	
SM 255	Three Notch Road—Clark's Landing Road to Jarboesville	1942 D.A.	378,000.00	321,300.00				56,700.00	
SM 263-1-2	Town of Jarboesville—Drainage and Traffic Service	1942 D.A.	166,700.00	60,840.00				105,860.00	2,944.00
SM 281-1	Leonardtown to Hollywood Road—Construction	1946-7-8 F.A.S.	73,600.00			44,160.00		26,496.00	
S 83-3	Pocomoke toward Westover Road—Surfacing roadway	1946-7-8 F.A.P.	259,000.00			18,130.00		41,400.00	199,470.00
S 83-4	Greenhill toward Pocomoke Road—Surfacing roadway	1946-7-8 F.A.P.	167,500.00					16,750.00	150,750.00
S 152-1	East Princess Anne Road	1946-7-8 F.A.S.	13,000.00			10,193.71		2,416.29	390.00
S 158-1	Kings Creek—Dublin	1946-7-8 F.A.S.	13,500.00					3,645.00	9,855.00
S 159-1	Through Upper Farmount	1946-7-8 F.A.S.	13,450.00						13,450.00
T 67-1	Easton—Cordova Road to Wye Mills—Surfacing	1946-7-8 F.A.P.	196,306.79		148,224.00			48,082.79	
T 67-3	Easton to Wye Mills Road—Grading, draining, and surfacing	1946-7-8 F.A.P.	495,000.00					39,640.00	455,360.00
T 73-1	Wye Mills to Easton to Trappe Road—Surfacing	1946-7-8 F.A.P.	273,429.22		233,520.00			39,909.22	
T 73-5	Flashing Light—Pa. R.R. Easton Bypass near Easton	1941 F.A.G.	3,343.99					3,343.99	680.00
W 183-3	Hollow Road	1946-7-8 F.A.S.	34,000.00			26,860.00		6,460.00	
W 204-2	Bridge over Potomac River at Sandy Hook—Constructing superstructure	E.R.H.	380,000.00					380,000.00	
W 204-3	Bridge over Potomac River at Sandy Hook—Construct road approach	E.R.H.	50,000.00		29,256.00			13,917.60	
W 353-1	National Pike—East of Hagerstown to Myersville—Construction of roadway	1946-7-8 F.A.P.	260,000.00		173,536.00			50,640.00	5,200.00
W 361-1	Blue Ridge Summit to Pen Mar to Highfield Road	1942 D.A.	87,199.91	76,960.00					

GENERAL CONSTRUCTION AND OPERATING FUNDSTATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948

DATE AUTHOR- IZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPEN- DITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
6-30-48	AA 399X	Southern Maryland Boulevard toward Bristol—Resurfacing.....				\$ 30,360.00	\$ 30,360.00
6-30-48	B 579-1	Route No. 40, Martins Boule- vard to Cowenton Road— Resurfacing and widening of roadway.....			\$ 343.18	1,210,520.57	1,210,863.75
6-30-48	B 579-2	Pulaski Highway—Cowenton Road to Little Gunpowder Falls—Resurfacing and wid- ening of roadway (Partial costs, etc. see Harford County Project No. 314-4).....			122.72	1,063,530.38	1,063,653.10
6-30-48	Ce 320X	Sub-sealing Route No. 40, Sus- quehanna Bridge to Elkton.....				76,676.00	76,676.00
6-30-48	H 314-4	Pulaski Highway—Cowenton Road to Little Gunpowder Falls—Resurfacing and wid- ening of roadway (Partial Costs, etc.—see Baltimore County Project No. 579-2).....			229.82	455,798.74	456,028.56
6-30-48	FS 101	Advance—Purchase of Ferry Boat, "North Jersey".....			20,000.00		20,000.00
6-23-48	F 448X1	Thurmont-Ennitsburg Road— Erect additional Guard Rails and Reflectors.....				2,443.61	2,443.61
6-23-48	G 235	Encasement repairs to overpass on Oak Street, Oakland.....	\$ 63.18		961.74	7,488.53	8,513.45
6-23-48	G 236	Encasement repairs to overpass on Altamont-Wilson Road.....	43.88		382.00	8,087.57	8,513.45
6-23-48	G 249X	Town of Friendsville—Con- struct backfill.....				3,772.00	3,772.00
6-23-48	ES 111	Survey by Ballard-Paddock Company—To improve U. S. Route No. 240, Frederick County Line to Brink.....			8.21	59,391.79	59,400.00
6-18-48	B 392-2	Wilkins Avenue to Washington Boulevard—Surfacing.....	\$ 46,845.31	729.34	451,011.09	1,547,393.58	2,045,979.32
6-11-48	SM 281-4	Leonardtown-Hollywood Road —Construction of Roadway.....			62.58	55,419.75	55,482.33
6-10-48	ES 110	Saxe-Williar and Robertson— Survey of Frederick Road.....			14,199.53	35,800.47	50,000.00
6- 9-48	K 164-2	Fannel Branch on Chestertown- Rock Hall Road—To replace existing bridge.....			267.76	34,732.24	35,000.00
6- 9-48	ES 105	Engineering Services, J. E. Greiner Company—Plans for 6 Bridges in Connection With Freeway.....			59,292.48	24,357.52	83,650.00
6- 9-48	ES 106	Survey by J. Spence Howard— To improve U. S. Route No. 40, Martin Boulevard to Harford County Line.....			8,673.38	12,326.62	21,000.00
6- 9-48	ES 107	Survey by Whitman-Requard and Associates—To improve U. S. Route No. 140 Near Westminster.....				15,000.00	15,000.00
6- 9-48	ES 108	Survey by Thompson-Grace and Mays—To improve U. S. Route No. 26, Liberty Road.....			5,124.49	6,875.51	12,000.00
6- 9-48	ES 109	Survey by Sandlass-Wieman and Associates—To improve U. S. Route No. 50, Crain Highway to District of Co- lumbia Line.....				36,000.00	36,000.00
6- 2-48	F 417X5	Frederick-Hagerstown Road— Construct Scenic Overlook.....			1.90	1,723.10	1,725.00
6- 2-48	M 426-1	Prison Camp in Montgomery County—Painting, electrical, and plumbing.....			919.55	4,080.45	5,000.00

EXHIBIT F—Continued

EXHIBIT F—Continued

GENERAL CONSTRUCTION AND OPERATING FUND**STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948**

DATE AUTHOR- IZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPEN- TURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
6- 2-48	P 600X1	Central Avenue—Construct Shoulders			9,175.26	38,601.31	47,776.57
5-26-48	H 314-2	Pulaski Highway, Little Gun- powder Falls to Bynum Run —Resurface and Widen Road.			2,705.67	1,639,777.81	1,642,483.48
5-26-48	F 449-2	Towns of Frederick and Thur- mont—Surfacing Streets			595.87	145,173.53	145,769.40
5-20-48	A 184-1	National Pike at Long—Con- struction of roadway			1,250.51	255,257.69	256,508.20
5-20-48	Cl 305-1	Route No. 140, Union Mills to Pennsylvania Line—Wid- ening			1,161.36	126,156.02	127,317.38
5-20-48	H 314-3	Pulaski Highway, Bynum Run to Aberdeen—Resurface and Widen Road			56,713.22	1,357,179.01	1,413,892.23
5-19-48	B 392-3	Bridge over Sulphur Springs Road at Arbutus—Con- struction			1,100.88	133,259.37	134,360.25
5-19-48	B 392-4	Bridge over Herbert Run at Winans—Construction			1,299.40	117,773.90	119,073.30
5-19-48	Ho 164-4	Overhead bridge for grade separation, Edmondson Ave- nue extended—Construction			1,731.51	125,482.07	127,213.58
5-19-48	T 67-4	Skipton Creek Bridges over North and South Branch			865.53	127,147.87	128,013.40
5-18-48	AA 391	Southern Maryland Boulevard, Wayson's Corner to Sunder- land—Construction of Road- way			10,678.42	163,132.18	173,810.60
5-10-48	AA 391X1	Wayson's Corner - Calvert County Line Road—Pre- liminary			2,199.19	781.61	2,980.80
5- 6-48	A 409	Celanese Plant—Allegany Grove Road—Widening and re- surfacing			686.46	199,100.05	199,786.51
5- 6-48	AA 393-1	Ritchie Highway toward Sandy Point—Construction of roadway			2,200.02	625,387.99	627,588.01
5- 6-48	P 636	Suitland Parkway thru Forest- ville—Widening and Resur- facing of roadway			1,114.40	114,629.48	115,743.88
5- 5-48	Ho 164-2	Edmondson Avenue extended to Columbia Pike—Conerete Roadway			30,481.87	712,355.44	742,837.31
4-28-48	A 406	Green Ridge - Washington County Line Road—Widen- ing and Resurfacing			17,148.26	24,965.89	42,114.15
4-28-48	F 449-1	Road from Knoxville to Sandy Hook Bridge — Surfacing Roadway (Partial costs, etc. —see Washington County Project No. 372)			165.22	38,300.17	38,465.39
4-28-48	G 248	Gortner-Red House Road— Widening Road			305.99	72,277.99	72,583.98
4-28-48	W 372	Road from Knoxville to Sandy Hook Bridge — Surfacing Roadway (Partial costs, etc. —see Frederick County Proj- ect No. 449-1)			41.30	9,575.04	9,616.34
4-28-48	Wi 242-1	Bridge over Pocomoke River at Sheppard's Crossing—Con- struction—(Partial Costs, etc.—See Worcester County Project No. 299-1)			175.79	4,552.44	4,728.23
4-28-48	Wo 299-1	Bridge over Pocomoke River at Sheppards Crossing—Con- struction—(Partial costs, etc. —see Wicomico County Project No. 242-1)			175.79	4,552.43	4,728.22

EXHIBIT F—Continued

GENERAL CONSTRUCTION AND OPERATING FUND

STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948

DATE AUTHOR- IZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPEN- DITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
4-22-48	B 572-1	Route No. 148, Towson to Har- ford Road—Surfacing			13,724.55	99,390.10	113,114.65
4-14-48	B 578-1	York Road—Aerial flights for contour plans			25.51	12,489.49	12,515.00
4-14-48	G 248X1	Gortner-Red House Road— Preliminary Survey			531.75	2,543.25	3,075.00
4-14-48	G 248X2	Accident to Flatwood Road— Preliminary Survey				1,717.50	1,717.50
4-14-48	M 433X1	Route No. 28, Rockville—Hunt- ing Hill Road—Survey pre- paratory to widening				1,863.00	1,863.00
4-14-48	M 433X2	Route No. 240, Gaithersburg to Brink—Survey prepara- tory to widening			169.28	3,335.92	3,505.20
4-14-48	M 433X3	Route No. 240, Gaithersburg to Brink—Widening			13,451.59	4,258.41	17,710.00
4-14-48	M 433X4	Route No. 28, Rockville—Hunt- ing Hill Road—Widening			13,289.64	5,455.36	18,745.00
4-7-48	A 254-1	National Pike Relocation, Al- legany Grove to Frostburg— Construction of Roadway		25,212.23	260,355.81	1,715,684.66	2,001,252.70
4-7-48	C 193X	Route No. 251, Chesapeake Beach to Naval Laboratory —Resurfacing			14,748.32		14,748.32
4-7-48	K 166X	Town of Still Pond—Surface Treat Shoulders				2,001.00	2,001.00
4-7-48	Wo 300X2	Snow Hill-Pocomoke Road— Surfacing of Roadway			27,679.63		27,679.63
3-31-48	C 192X	Route No. 260, to North Beach —Elevating roadway				1,980.00	1,980.00
3-31-48	Ce 165-12	Route No. 213, toward Galena from Bridge over Canal— Mulch seeding			9,650.30	5,692.86	15,343.16
3-31-48	Ch 258	Mattawaman Creek to Lyons Corner Road — Surfacing Roadway			8,053.89	182,362.35	190,416.24
3-24-48	SM 281X2	Leonardtown—Hollywood Road —Sodding (Agreement of Right-of-Way Department)			2,462.11		2,462.11
3-24-48	AW 601	Frederick Traffic Survey			3,583.12	4,416.88	8,000.00
3-21-48	AW 602	Transportation Study in Dis- trict of Columbia—Share of Costs			7.39	17,992.61	18,000.00
3-16-48	T 67-3	Easton-Wye Mills Road— Grading, Draining and Surfacing			78,131.47	1,194,310.30	1,272,441.77
3-10-48	Ce 264X	Elkton Garage—Construct shed	11,486.88	5,318.88	1,389.67	329.57	18,525.00
3-10-48	H 314X1	Pulaski Highway, Harford County Line to Aberdeen— Surfacing Road			77,262.57	14,466.89	91,729.46
3-10-48	T 118X1	Route No. 213, Cordova Road to Easton—Widening			3,240.41	38,716.19	41,956.60
3-10-48	W 390	Route No. 40, Antietam Creek to Alternate Route No. 40— Widening			24,888.70	29,161.30	54,050.00
3-10-48	Wi 245	Route No. 349, Rockawalking School-Tyaskin Road— Widening			34,965.29	86,678.26	121,643.55
2-25-48	B 576-1	Route No. 40, Edmondson Ave- nue—Grading and surfacing (Partial costs, etc.—see How- ard County Project No. 236-1)			154,457.42	283,325.08	437,782.50
2-25-48	G 155-2	Oakland-Keyser Ridge Road— Surface Roadway		488.57	103,839.31	638,210.19	742,538.07
2-25-48	H 315	Pulaski Highway, Northeast of Aberdeen and extending Northeasterly to Ontario Street —Surfacing Roadway			15,844.99	95,655.28	111,500.27

GENERAL CONSTRUCTION AND OPERATING FUND

**STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948**

DATE AUTHOR- IZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPEN- DITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
2-25-48	Ho 236-1	Route No. 40, Edmondson Avenue—Grading and Surfacing (Partial costs, etc.—see Baltimore County Project No. 576-1)			38,614.35	70,831.27	109,445.62
2-25-48	M 433	Routes No. 28 and No. 240, Rockville and Gaithersburg—Surfacing of roadways			113,685.91	65,074.69	178,760.60
2-25-48	P 634	Route No. 301, Priest Bridge thru Marlboro—Surfacing of roadway			80,947.51	78,400.99	159,348.50
2-25-48	Wo 300	Snow Hill-Pocomoke City Road—Widening			144,889.86	95,635.93	240,525.79
2-17-48	A 403	Frostburg—Midland Road—Resurfacing			114,569.09	57,215.61	171,784.70
2-17-48	Ho 235X	Dorsey Road—Widen and Resurface			93.20	15,983.80	16,077.00
2-17-48	M 430X1	Route No. 410, East-West Highway at Rock Creek—Widening			8.46	6,886.94	6,895.40
2-17-48	P 633 (M 431)	Prince George and Montgomery Counties—Surfacing certain roadways			106,863.90	6,309.10	113,173.00
2-10-48	AA 390X1	Stoney Creek Road, Baltimore City Line to Forman—Right of Way			3,512.41	1,047.99	4,560.40
2-10-48	C 190X1	Route No. 416, Dunkirk-Sunderland Road—Preliminary			2,023.54		2,023.54
2-10-48	D 212	Route No. 335, beginning at intersection of Route No. 336—Resurfacing			26,355.24	51,715.96	78,071.20
2-10-48	F 477X1	Wormans Mill—Mt. Pleasant Road—Preliminary Survey			3,453.29	286.71	3,740.00
2-10-48	M 430	Route No. 410, Georgia Avenue toward Wisconsin Avenue—Widening			58,181.25	21,732.11	79,913.36
2-10-48	S 171X	Marion—Kingston Road—Surface treatment			2,783.11	2,848.89	5,632.00
2-10-48	S 172X	Rehobeth Road—Surface treatment			6,558.57	1,889.43	8,448.00
2-10-48	S 174X	East Princess Anne Road—Surface treatment			3,967.71	5,418.29	9,386.00
2-10-48	S 176X	Polk's Road—Surface treatment			5,058.27	6,134.73	11,193.00
2-10-48	Wi 245X1	Route No. 349, Rockawalking School—Tyaskin Road—Preliminary			3,789.54	2,510.46	6,300.00
2-10-48	Wo 300X1	Snow Hill-Pocomoke Road—Preliminary			4,260.08	939.92	5,200.00
1-31-48	Ho 164-3	Bridge over National Pike on Edmondson Avenue extended—Construction			19,016.20	84,189.98	103,206.18
1-29-48	AA 390	Stoney Creek Road, Baltimore City Line to Forman—Resurfacing			63,116.09	17,757.66	80,873.75
1-29-48	C 191X	Route No. 416, Dunkirk—Chesapeake Beach Road—Widening			9,820.11	7,334.39	17,154.50
1-29-48	Co 167X1	Route No. 313, Section 8 on Denton Road—Widening			4,144.87		4,144.87
1-29-48	K 164	Chestertown—Rock Hall Road—Construction of roadway			70,002.39	112,035.16	182,037.55
1-29-48	K 164X1	Chestertown—Rock Hall Road—Preliminary			3,394.72	227.78	3,622.50
1-21-48	M 434X	Route No. 127, Old Georgetown Road—Construct Shoulders			7,199.67	1,068.83	8,268.50
1-21-48	ES 102	Survey By Sandlass-Wieman and Associates—To improve U. S. Route No. 50, Generals Highway to Crain Highway			29,791.14	208.86	30,000.00

GENERAL CONSTRUCTION AND OPERATING FUND
STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948

DATE AUTHOR- IZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPEN- DITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
1-21-48	ES 101	Survey by Whitman-Requard and Associates—To improve U. S. Route No. 140 near Reisterstown			15,026.27	11,973.73	27,000.00
1-21-48	ES 100	Survey by Thompson-Grace and Mays—Plans for road to Eldersburg			12,071.51		12,071.51
1-21-48	ES 103	Survey by J. Spence Howard—To improve U. S. Route No. 40, Aberdeen-Magnolia Road			17,621.84	4,378.16	22,000.00
1-21-48	ES 104	Survey by C. R. Nuzum—To improve U. S. Route No. 40, Sidling Hill Mountain near Hancock			9,484.67	8,015.33	17,500.00
1-13-48	M 432X	Brookville Road at Taylor Avenue—Extend Culvert			8,955.55	1,394.45	10,350.00
1- 6-48	F 477X	Wormans Mill—Mt. Pleasant Road—Construct shoulders			31,741.74	1,053.27	32,795.01
12-30-47	Ho 234	Pine Orchard—Carroll County line Road—Preliminary Survey			35,285.10		35,285.10
12-23-47	AA 388X	Dorsey Road (Route No. 301)—Widening			42,989.69	1,756.68	44,746.37
12-23-47	B 570X	Route No. 40—Catonsville to Ellicott City—Penetration macadam			151.56	15,353.32	15,504.88
12-23-47	B 571X	Route No. 25, City Line to Seminary Avenue—Widening			66.46	20,854.34	20,920.80
12-23-47	B 572X	Route No. 148, Joppa Road—Widening			6,787.46	7,963.24	14,750.70
12-23-47	Co 204	Bridges over Watts Branch and Herring Run, near Denton—Widening			667.00	33,845.07	34,512.07
12-16-47	M 427X	Route No. 195—Carroll Avenue, between Takoma Park and University Lane—Widening			2,500.39	1,783.36	4,283.75
12-16-47	M 428X	Route No. 194, Flower Avenue—between Carroll Avenue and Sligo Avenue—Widening			3,821.74	5,378.26	9,200.00
12- 9-47	Co 192-1	Repair existing bridge over Choptank River—Denton			2,077.70	9,847.80	11,925.50
12- 9-47	Ce 315X	Special Projects on County Roads			5,434.98		5,434.98
12- 9-47	M 426	Tearing down barracks at Fort Meade and Rebuilding prison Camp in Montgomery County			4,351.55		4,351.55
12- 9-47	S 83-5	Pocomoke—Westover Road—Payment to Eastern Shore Public Service Company for repairs				13,500.00	13,500.00
12- 9-47	AW 600	Studies of Feasibility of Constructing Toll Roads in Maryland			19,617.61	2,382.39	22,000.00
11-25-47	Q 170-4	Matapeake Ferry Terminal Road—Surfacing of Roadway			32,312.60	53,221.69	85,534.29
11-25-47	S 164-1	Jenkins Creek Road—Surfacing Roadway			2,632.56	25,200.78	27,833.34
11-19-47	Ce 306-2	Pulaski Highway—Black top from Route No. 7 to Red Mill Grade Elimination			45,002.95		45,002.95
11- 6-47	C 189X	Route No. 416, Near Sunderland—Shoulders			21,368.00		21,368.00
10-29-47	S 83-3	Pocomoke toward Westover Road—Surfacing Roadway			131,996.17	390,943.51	522,939.68
10-29-47	W 363-3	Hagerstown—Williamsport Road—Surfacing of Roadway			1,191.45	90,090.24	91,281.69
10-29-47	CBB 3-87	J. E. Greiner Company—Preliminary Engineering, Re: Chesapeake Bay Crossing			147,852.93	72,166.31	220,019.24

GENERAL CONSTRUCTION AND OPERATING FUND
STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948

DATE AUTHOR- IZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPEN- TURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
10-28-47	Q 206X1	Route No. 404, Wye Mills-Queen Anne Road—Widening.			5,043.18	46,706.82	51,750.00
10-10-47	Ho 221-1	Bridge over Bonnie Branch on Ilchester Road—Reconstruction.			9,951.08	4,358.92	14,310.00
10- 9-47	W 363-2	Hagerstown - Williamsport Road—Widening.			55,791.18	99,098.44	154,889.62
10- 8-47	F 475X	Town of Thurmont—Construct Backfill.			2,297.67	3,820.03	6,117.70
10- 8-47	Q 217X	State Roads Commission's Lot in Centreville—Erecting of fence.			237.07	5,474.90	5,711.97
10- 8-47	CBB 1-2-87	Ole Singstad—Palmer—Baker, Inc.—Engineering fee, Re: Costs of Tunnel and Causeway Between Sandy Point and Kent Island.			80,000.00	20,000.00	100,000.00
10- 1-47	F 417X3	Frederick - Hagerstown Road—To control erosion.			7,205.29		7,205.29
10- 1-47	SM 283-1	Route No. 249, Approach to Bridge near Piney Point—Construction.			6,955.77	16,229.28	23,185.05
10- 1-47	T 86-4	Easton - Denton Road—Reshaping and Mulching.			3,695.73	214.27	3,910.00
9-23-47	P 604	Defense Highway, Peace Cross to Crain Highway—Surfacing of roadway.			413,900.76	43,832.32	457,733.08
9-18-47	F 464X	Intersection of Route Nos. 72 and 15 at Lewistown—Bank curve.			2,093.50		2,093.50
9-11-47	AA 383X	Millersville - Odenton Road—Widening.				24,150.00	24,150.00
9-11-47	AA 384X	Harmon - Dorsey Road—Widening.			25,369.41	3,138.11	28,507.52
9- 4-47	AA 382	Route No. 416, between Wayson's Corner and Route No. 260—Widening (Partial Costs, see Calvert County Project No. 186).			16,651.88		16,651.88
9- 4-47	C 186X	Route No. 416, between Wayson's Corner and Route No. 260—Widening (Partial Costs—see Anne Arundel County Project No. 382).			30,924.93		30,924.93
9- 4-47	Wi 239	Salisbury—Erection of New District Office Building.			2,674.31	48,413.94	51,088.25
9- 3-47	B 500-3	Pulaski Highway—Beautification.			9,933.92	2,055.94	11,989.86
9- 3-47	M 403	Route No. 240—Rockville toward Bethesda—Remove curb.			5,178.49		5,178.49
9- 3-47	P 602X	Baltimore - Washington Boulevard—Install 5 Traffic Signals thru College Park.			7,133.17	3,166.83	10,300.00
9- 3-47	W 363-1	Hagerstown - Williamsport Road—Purchase of Rights of Way from Potomac Edison Company.			25,000.00		25,000.00
8-20-47	Q 199-1	Bridge over Wye Narrows—Construction.	1,004.09	3,411.31	80,436.15	10,222.00	95,073.55
8-19-47	S 83-4	Greenhill toward Pocomoke Road—Surfacing Roadway.		744.32	27,457.82	301,432.86	329,635.00
8-14-47	Ce 306X1 (II 309X1)	Pump Asphalt on Pulaski Highway between Aberdeen and Susquehanna Bridge.			33,408.53		33,408.53
8- 6-47	SM 281-1	Leonardtown - Hollywood Road—Construction.		2,326.11	113,824.83	18,915.48	135,066.42
7-29-47	A 395X	Uhl Highway—Widening.				50,600.00	50,600.00
7-29-47	P 481	Rhode Island Avenue—Widening.		56.13	13,668.05	1,542.49	15,266.67

GENERAL CONSTRUCTION AND OPERATING FUND
STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948

DATE AUTHORIZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPENDITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
7-28-47	AA 377	Severn Hill-Glen Burnie Road—Resurfacing		119.45	77,608.33		77,727.78
7-24-47	Wo 284	Berlin - Delaware Line Road—Resurfacing	150.50	104.89	95,036.38	138,246.78	233,538.55
7-23-47	A 392	McMullen Highway—Resurfacing		148.88	117,265.57		117,414.45
7-23-47	AA 360	Road from City Line to Furnace Branch—Resurfacing	341.45	371.77	143,960.31	33,462.88	178,136.41
7-23-47	B 561	Parkton - Pennsylvania Line Road—Resurfacing		150.10	131,117.73		131,267.83
7-23-47	B 564	North Point Road, Wise Avenue to Sparrows Point—Resurfacing		53.50	112,985.43		113,038.93
7-23-47	Ce 305	Little Elk Creek Bridge—Reconstruction			3,316.36	46,699.18	50,015.54
7-23-47	Ce 306	Pulaski Highway—Surface Roadway (Partial costs, etc.—see Harford County Project No. 309)		152.07	275,328.08	42,653.61	318,133.76
7-23-47	G 237	Gormanian - West Va. Line Road—Construct Shoulders		76.12	122,423.15	68,444.43	190,943.70
7-23-47	H 309	Pulaski Highway—Surface Roadway (Partial Costs, etc.—see Cecil County Project No. 306)		124.42	225,268.43	34,898.40	260,291.25
7-23-47	P 595	University Lane, College Park to Seeks Corner—Surfacing of roadway		79.08	110,348.02	10,553.45	120,980.55
7-23-47	AW 599	Hagerstown Traffic Survey			9,968.61	2,031.39	12,000.00
7-17-47	Wo 293X	Drawbridge over Pocomoke River at Pocomoke—Repair cables			4,912.74	837.26	5,750.00
7-10-47	AA 376X	Mays-Solomon's Island Road—Widening		943.89	14,656.85		15,600.74
7-10-47	W 353X2	National Pike—To stabilize shoulders			18,203.46		18,209.46
7- 9-47	M 354-2	Georgia Avenue-Colesville Road—Surfacing of roadway		1,690.01	246,090.84	247,942.99	495,723.84
7- 1-47	B 539	Belair Road, Madeline and Elm Avenues—Construction	217.06	349.99	7,920.23		8,487.28
7- 1-47 to 6-30-48		Miscellaneous Projects		951.50	102,324.41	139,236.12	242,512.03
6-25-47	CBB 1-1-87	Exploration Tests in Chesapeake Bay Traffic Report, Engineers		26,963.85	180,311.79	57,724.36	265,000.00
6-17-47	AA 375	Sandy Point Ferry Terminal—Repair fire damage				11,672.50	11,672.50
6-17-47	Ch 252X	Control erosion on approach to Potomac River Toll Bridge			841.38		841.38
5-28-47	F 417-2	National Pike—Construction of roadway		1,226.23	55,401.16	7,589.91	64,217.30
5- 6-47	K 155X	Chestertown - Rock Hall Road—Widening Shoulders		18.29	114,690.21		114,708.50
5- 6-47	P 569	Paint Branch to District of Columbia Line—Construction of roadway		67,541.77	230,037.11	77,666.27	375,245.15
4-30-47	AA 303-5	Laurel - Fort Meade Road—Surfacing (Partial costs—see Prince George's County Project No. 452-6)		34,827.17	18,772.35		53,599.52
4-30-47	Ce 304X	Route No. 40—Use of Asphalt Pump Machine		11,197.17	17,293.46	10,149.37	38,640.00
4-30-47	P 424-2	Crystal Springs Avenue—Construction of roadway		1,472.66	78,551.36	3,367.41	83,391.43
4-30-47	P 452-6	Laurel-Fort Meade Road—Surfacing (Partial costs—see Anne Arundel County Project No. 303-5)		1,833.01	988.02		2,821.03

GENERAL CONSTRUCTION AND OPERATING FUND

**STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948**

DATE AUTHORIZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPENDITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
4-22-47	D 204	Blackwater River Bridge, Southwest -- Reconstruct Roadway		435.63	35,405.24		35,840.87
4-16-47	P 553-1	Central Avenue—Construction of Culvert		526.02	18,766.88		19,292.90
4- 3-47	B 557	Route No. 40—Cost of pumping asphalt under concrete surface (Partial costs, see Harford County Project No. 306)		38,874.18			38,874.18
4- 3-47	F 449	Penna. Line toward Frederick—Resurfacing roadway	230.70	39,000.54	4,481.81		43,713.05
4- 3-47	H 306	Route No. 40—Cost of pumping asphalt under Concrete surface (Partial costs—see Baltimore County Project No. 557)		392.66			392.66
3-20-47	AA 255-19	Dolphins at Lay Slip, Sandy Point Ferry Terminal		9,068.57	2,268.65		11,337.22
3-11-47	AA 255-18	Repairs to Bridge Slip #1, Sandy Point Terminal				15,000.00	15,000.00
2-13-47	A 390	Potomac River Bridge, Wiley's Ford—Repairs		17,194.14	7,337.80		9,956.34
2- 5-47	D 200X	Hurlock - Ellwood Road—Repair shoulders		8,055.71	1,439.39	4,994.90	14,490.00
2- 5-47	S 163X	Wicomico Line to Princess Anne — Restore shoulders		7,185.87	3,301.89	5,669.74	16,157.50
2- 5-47	Wi 235	Somerset Line—Salisbury Road—Restore Shoulders		4,271.19	764.70		5,035.89
1-29-47	H 305X	Pulaski Highway—Install Underdrain Pipe		8,740.03	12,327.97		21,068.00
1-28-47	M 354-4	Silver Springs Underpass at Georgia Avenue—Construction		96,145.62	546,998.52	207,827.44	850,971.58
1-23-47	Cl 295	Route No. 30—South of Linesboro—Replace culvert pipe		1,299.19			1,299.19
1-23-47	Ce 301	Pulaski Highway—Sod, seed, and mulching slopes		1,071.34	8,065.23		9,136.57
1-21-47	H 316X	Belair - Churchville Road, Preliminary Survey on Route No. 22			9,030.31		9,030.31
1- 7-47	Wo 245-1	Old Sinepuxent Bay Bridge at Ocean City—Removal of Bridge	296.24	461.38	68,338.38	44,688.63	113,784.63
12- 5-46	AA 368	Approach to Baltimore City Line (Freeway), Baltimore to Washington Road		9,593.46	10,808.32		20,401.78
12-18-46	AW 598	Southern Avenue Garage—Repair and Paint roof		1,056.00			1,056.00
12-31-46	W 353-1	National Pike—East of Hagerstown to Myersville—Construction of Roadway	79,050.08	524,068.41	171,905.25	30,871.42	805,895.16
11-19-46	Cl 292	Bridge over Patapsco River at Sykesville—Construction of sidewalk (Partial costs, see Howard County Project No. 225)		2,245.12	192.93		2,438.05
11-19-46	Ho 225	Construct sidewalk on bridge over Patapsco River at Sykesville (Partial Costs—see Carroll County Project No. 292		2,376.11	192.94		2,569.05
11- 6-46	B 333-23	Eastern Avenue, Stemmers Run Road to Fenway Street—Channelization		4,935.13	1,481.69		6,416.82
11- 6-46	Co 141-2	Bridge over Tuckahoe Creek—Construction (Partial costs, etc.—see Talbot County Project No. 86-3) (1947 Costs totaled \$2,793.89, contributions made by Caroline County in the amount of \$30,750.00.)	5,160.11	27,956.11	80,542.63	44,110.83	101,857.46

ITALICS INDICATE RED FIGURES.

GENERAL CONSTRUCTION AND OPERATING FUND**STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948**

DATE AUTHOR- IZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPEN- DITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
11- 6-46	T 86-3	Bridge over Tuckahoe Creek— Construction (Partial costs, etc., see Caroline County Proj- ect No. 141-2) (1947 Costs totaled \$2,793.89, contribu- tions made by Talbot County in the amount of \$30,750.00)	5,160.11	<i>27,956.11</i>	80,542.63	44,110.82	101,857.45
10-23-46	AA 255-17	Construction of Slip #2 and Toll Booths at Sandy Point Terminal		9,092.56	221,554.82	52,408.22	283,055.60
10- 8-46	B 547	Route No 40—Stabilizing sub- grade for concrete patching		6,614.25	1,107.14		7,721.39
10- 8-46	Ce 165-1	Bridge over C. & D. Canal— Construction of Approaches	32,501.22	233,521.13	454,305.01	91,602.77	811,930.13
10- 8-46	H 303	Harford County Line—Havre de Grace Road—Stabilizing		3,344.03	5,059.08		8,403.11
10- 8-46	P 563X	Route No. 492—Construct Shoulders		7,398.89			7,398.89
10- 1-46	AA 303-4	Laurel—Fort Meade Road, Prince George's County Line to Fort Meade—Seeding and mulching		5,371.56			5,371.56
10- 1-46	Ch 124-11	East approach to Bridge over Potomac River, Morgantown— Widening		3,237.85		14,649.83	17,887.68
9-26-46	Ho 170-1	Bridge over Tiber Run—Con- struction (1947 Costs totaled \$20,805.36, contributions made by Howard County in the amount of \$7,229.79)		13,575.57			13,575.57
9-15-46	AA 262-1	Bridge over Stoney Creek—Con- struction (1947 Costs Totaled \$120,317.25, contributions were made by Baltimore City and Anne Arundel County in the amount of \$247,103.80 each)	35,277.01	<i>373,890.35</i>	436,237.65	419,127.46	516,751.77
8-22-46	Ce 292X	Cecil County—Storm Damage		9,605.71			9,605.71
8-22-46	Ce 294X	Providence — Correction of drainage on Route No. 441		1,434.11	4,351.66		5,785.77
8- 6-46	Q 170-3	Matapeake Ferry—Erection of Shop Building		69,515.67	34,050.35		103,566.02
7- 9-46	Co 188X	Storm Damage in Caroline County		7,217.10	226.87		7,443.97
7- 9-46	T 111X	Talbot County—Storm Damage		6,768.29	65.88		6,834.17
7- 9-46	Wi 197-1	Salisbury—Delmar Road, from Middle Neck relocation 0.331 miles—Construction of road- way	26,595.92	110,515.19	41,540.43		178,651.54
7- 2-46	Co 182	Repairs to Bridge over Chop- tank River	1,067.80	570.07	10,567.97		12,205.84
7- 2-46	Ce 165	Elkton—Chesapeake City Road— Preliminary	6,052.61				6,052.61
7- 2-46	G 192-1	Keyser Ridge—Pennsylvania Line Road, Construction of road- way	39.83		3,774.43		3,814.26
7- 2-46	P 391	Silver Hill—T. B. Road—Pre- liminary	2,664.84	5,365.95	11,624.87		19,655.66
7- 2-46	P 522	Queen's Chapel Road—Pre- liminary	3,960.62		2,054.40		6,015.02
7- 2-46	Q 206X	Route No. 404, Queen Anne- Wye Mills Road—Acquiring Right of Way		3,099.96	6,903.41	9,491.43	19,494.80
7- 2-46	T 67-2	Skipton—Wye Mills Road—Pre- liminary	7,017.10	1,955.88	13,310.63		22,283.61
7- 2-46	T 105	Hillsboro Relocation—Public Works Project	2,268.92		4,941.18		7,210.10

ITALICS INDICATE RED FIGURES.

EXHIBIT F—Continued

GENERAL CONSTRUCTION AND OPERATING FUND

**STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948**

DATE AUTHOR- IZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPEN- DITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
7- 2-46	Wi 133	Salisbury - Delmar Road—Preliminary	3,657.20		2,516.09		6,173.29
7- 2-46	Wi 199	Salisbury By-pass toward Ocean City	2,687.07		412.60	6,900.33	10,000.00
7- 1-46 to 6-30-47		Miscellaneous Projects	24,710.36	142,562.79	4,021.00	35,703.97	206,998.12
6-25-46	P 555	Laurel - Ammendale Road—Resurfacing of roadway	266.33	138,596.63			138,862.96
6-25-46	P 556	Ammendale - Paint Branch Road—Resurfacing of roadway	266.35	161,804.05			162,070.40
6-20-46	AA 363	Defense Highway, Bartgis Store to Annapolis Water Works—Construction of Roadway	259.36	16,469.55			16,728.91
6-20-46	Co 183-1	Federalburg-Denton Road—Construction of "I" Beam Bridge	667.84	19,511.28			20,179.12
6-20-46	F 417-1	Myersville-Frederick Road—Construction of roadway	1,178.55	606,691.77	76,770.52	47,694.02	732,334.86
6-20-46	Wi 233	Salisbury - Erecting fence around State Roads Garage		3,302.07	1,584.38	863.55	5,750.00
6-11-46	Ho 207X2	Deadman's Curve—Seeding and mulching		2,194.00			2,194.00
6- 6-46	AA 362	Installation of Storm Water Sewer at Glen Burnie	37.99	9,533.01	3,093.08		12,664.08
6- 6-46	B 500-2	Pulaski Highway-Golden Ring to Baltimore City Line—Resurfacing	1,634.73	525,438.23	92,577.14	29,934.53	649,584.63
6- 6-46	Co 141-1	Easton-Matthews and Denton Road—Construction of roadway (Partial costs—see Talbot County Project No. 86-2)	18.58	17,081.48	2,561.57		19,661.63
6- 6-46	T 86-2	Easton-Matthews-Denton Road—Construction of Roadway (Partial costs—see Caroline County Project No. 141-1)	167.26	153,733.36	23,054.09		176,954.71
5-29-46	Cl 250-5	Reisterstown - Westminster Road—Estimated cost of adjustment	11.85	1,824.95			1,836.80
5-21-46	F 452X	Frederick - Ridgeville Road—Erect Guard Fence		3,608.50	248.78	4,203.61	8,060.89
5- 7-46	B 450-1	Westminster Pike—Construction of roadway (Partial costs, etc.—see Carroll County Project No. 250-1)	18,928.31	365,443.46	48,836.04	18,094.04	451,301.85
5- 7-46	B 450-6	North Branch of Patapsco River - Construction of Bridge (Partial costs, etc.—See Carroll County Project No. 250-4)	561.77	71,565.61	15,019.42	12,826.18	99,972.98
5- 7-46	Cl 250-1	Westminster Pike—Construction of Roadway (Partial costs, etc.—see Baltimore County Project No. 450-1)	39,648.05	344,723.72	48,836.05	18,094.04	451,301.86
5- 7-46	Cl 250-4	North Branch of Patapsco River - Construction of Bridge (Partial costs, etc.—see Baltimore County Project No. 450-6)	1,594.05	70,533.33	15,019.41	12,826.19	99,972.98
5- 7-46	D 194	Sharptown-Brookview Road—Surfacing Roadway	622.33	72,617.24			73,239.57
5- 7-46	Q 170-2	Matapeake Ferry Terminal—Construction	19,899.24	386,322.22	523,426.82	298,786.81	1,228,435.09
5- 7-46	T 67-1	Easton-Cordova Road to Wye Mills—Surfacing	12,345.57	334,716.01	79,959.50		427,021.08
5- 1-46	Co 181-1	Main Street in Denton—Widening	2,606.94	11,361.29			13,968.23
4-25-46	Q 204X	Dudley's Corner-Crumpton Road—Surface treat shoulders	2,582.18	7,011.20			9,593.38

GENERAL CONSTRUCTION AND OPERATING FUND**STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948**

DATE AUTHOR- IZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPEN- TURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
4-16-46	D 144-4	Big Mills—Vienna Road—Con- struction of Roadway	15,670.15	337,752.29	38,793.64	10,379.77	402,595.85
4-16-46	T 73-1	Wye Mills - Easton - Trappe Road—Surfacing	68,617.80	497,616.04	65,246.71		631,480.55
4- 9-46	Co 178X2	Long School and Hillsboro Road—Modification of 3 curves		4,465.83			4,465.83
4- 3-46	Wi 217-1	Pocomoke River Bridge—Con- struction (Partial costs, etc. —see Worcester County Project No. 272-1)	10,764.69	40,867.14	6,226.54	15,396.87	73,255.24
4- 3-46	Wo 272-1	Pocomoke River Bridge—Con- struction (Partial costs, etc. —see Wicomico County Project No. 217-1)	10,764.68	40,867.15	6,226.54	15,396.87	73,255.24
3- 7-46	F 448X	Thurmont—Emmitsburg Road —Erect Guard Rails and Reflectors	5,536.94	7,035.44			12,572.38
3- 7-46	AW 597	Furnish and Install 50 Flasher Units on Traffic Signals Throughout State				1,850.00	1,850.00
2-26-46	SM 248-1	Construction of Bulkhead— St. Mary's River, St. Mary's City	1,481.59	7,120.90	17,932.16		26,534.65
2-26-46	SM 263-1	Town of Jarboesville—Drain- age and Traffic Service	673.27	144.71	149.76	6,520.77	7,488.51
2-26-46	Wo 278	Lighting Ocean City Bridge	831.99	12,699.55	7,576.69		21,108.23
2-14-46	Q 201X	Centreville—Wye Mills Road— Grading of Roadway	7,094.72	16,066.39	39.73		23,200.84
2-14-46	FS 100	Maryland Drydock Company —Purchase of Ferry Boat, "Gov. H. R. O'Connor"	335,746.00	402,829.59			738,575.59
1-23-46	AA 261-3	Bridge over Spa Creek— Construction	60,433.65	539,964.24	149,535.66	3,377.95	753,311.50
12-19-45	W 204-2	Bridge over Potomac River at Sandy Hook—Constructing superstructure	3,541.90	462,500.75	364,505.23	21,271.87	851,819.75
12- 5-45	W 204-3	Bridge over Potomac River at Sandy Hook—Construct Road approach	57,265.82	121,920.06	30,023.01	12,485.82	221,694.71
11-21-45	Ce 165-6	Chesapeake-Delaware Canal at Chesapeake City—Right of Way	60,867.38	9,654.58	3,567.43	25,910.61	100,000.00
11-21-45	F 436	Brunswick—Point of Rocks Road—Surfacing roadway	38,609.34	18,169.97			56,779.31
10-31-45	A 370	National Pike—Asphaltic con- crete wearing course	38,223.21	71,627.40			109,850.61
10-31-45	F 437X	Gracelham—Jintown Road— Widening roadway	3,189.43	904.56			4,093.99
10-23-45	Ce 165-3	Elkton—Chesapeake City Road —Right of Way	3,831.43	13,164.73	2,490.92		19,487.08
10-23-45	P 546-1	Sargent Road—Construction of Culvert	7,698.55	2,745.71	2,006.25		12,450.51
10-16-45	P 547	Baltimore—Washington Boule- vard—Surfacing of roadway	113,055.66	10,918.07			123,973.73
10- 9-45	B 536X	York Road, Parkton to Penn- sylvania State Line—Wid- ening	29,471.59	809.14			30,280.73
9-18-45	AA 341-1	Glebe Creek on Mayo Road— Constructing Culverts	14,417.28	1,207.05			15,624.33
9-11-45	K 146X	Still Pond—Harmony Road —Surface Treatment of roadway	21,589.13	5,502.22	4,193.92		31,285.27
9- 4-45	Co 178X1	Route No. 404, through Thomastown—Right of Way.	70.24	34.17	2,085.34	5,280.93	3,300.00

ITALICS INDICATE RED FIGURES.

EXHIBIT F—Continued

GENERAL CONSTRUCTION AND OPERATING FUND

**STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948**

DATE AUTHOR- IZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPENDI- TURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
9- 4-45	Ce 288X	Route No. 40, Perryville-Elk- ton Road—Construct under- drain					
8-28-45	Wo 223-3	Pocomoke-Cape Charles Road —Surfacing Roadway	2,527.58	427.55	30.50	3,230.35	6,215.98
7-19-45	W 361-3	Camp Ritchie, Pen Mar Road —Surfacing Roadway	184,654.52	45,789.60	17.51	11,781.97	242,243.60
6-19-45	AA 303-1	Laurel-Fort Meade Road at Prince George's County line —Construction of roadway	50,276.46	4,412.69			54,689.15
5-16-45	Ho 219-3	Baltimore-Washington Boule- vard—Concrete Roadway	268,483.22	25,301.16	125.12		293,909.50
5-10-45	Q 197-1	Corsica River—Bridge at Cen- treville—Widening	167,798.17	5,894.26			173,692.43
4-17-45	H 295X	Pulaski Highway—Construct Stabilize Base	21,238.50	2,959.25	1.09		24,198.84
12-12-44	Co 178X	Route No. 404, Hillsboro and Log Cabin—3.0 miles of grading and draining	21,935.50	4,112.89			26,048.39
11- 8-44	P 532X	Town of Laurel—Widening Montgomery Street	17,096.00	3,525.33	8,982.22		29,603.55
11- 8-44	AW 584	Baltimore-Washington Free- way, Waterloo to Baltimore City—Special Survey	2,273.90	11,794.42	117.92		14,186.24
10-19-44	D 144-2	Bridge over Big Mill Pond— Construction	199,594.82		401.17	4,536.56	204,832.55
10-19-44	Wo 223-4	Bridge over Wagram Creek— Construction	31,506.55	5,206.82			36,713.37
10-10-44	Wo 223-2	Pocomoke-Virginia Line Road —Surfacing Roadway	21,176.41	6,418.21			27,594.62
9-19-44	D 144-1	Cambridge-Vienna Road— Construction of Roadway	250,565.20	21,653.46		16,114.00	288,332.66
9-19-44	Wo 255X	Ocean City-Delaware Line Road—Repairing sand fence	762,668.09	46,245.29	10,374.64		819,288.02
8-22-44	Ho 207-1	Baltimore-Washington Boule- vard—Construct Highway	6,630.40	2,540.49			9,470.89
12-14-43	A 283-2	Keyser, West Virginia-McCool Road—Preliminary	174,802.15	17,467.45	199.00		192,070.60
12-14-43	B 500	Pulaski Highway, Baltimore City line—Preliminary	13,819.91	621.95	8,775.25		23,217.11
12-14-43	F 425	Rockville to Monocacy River Road—Preliminary (Partial costs, etc.—see Montgomery County Project No. 383)	10,790.30	56.31			10,846.61
12-14-43	M 383	Rockville-Monocacy River Road—Preliminary (Partial costs, etc.—see Frederick County Project No. 425)	758.02		17.49	74,224.49	75,000.00
12-14-43	P 519	Marlboro By-Pass, Preliminary	758.02		17.49	74,224.49	75,000.00
12-14-43	T 86-1	Matthews-Tuckahoe Creek Road—Preliminary	21,963.03	12,523.73	13,663.49		48,150.25
12-14-43	M 354-1	Silver Spring Underpass and Approaches—Preliminary	7,821.48	197.12		13,981.40	22,000.00
7-31-43	AA 303-2	Laurel-Fort Meade Road— Construction of roadway	17,109.65	3,386.41	356.94		20,853.00
5-11-43	AW 594	Highway approaches to Pro- posed Patapsco River Bridge —Engineering Services		1,940.45	3,415.36		5,355.81
3-24-43	Q 187X	Centreville-Wye Mills Road— (Right of Way) Agreements	134,062.02	6,737.40	3,192.74	7,731.49	151,723.65
3-10-43	BC 178	Lombard Street, Pennsylvania Railroad Viaduct—additional costs	9,515.69	6,407.86			15,923.55
3- 2-43	BC 178-1	Lombard Street, Baltimore and Ohio Underpass (Refund)	1,660.91				1,660.91
9-15-42	A 329X4	McMullen Highway—Widening	9,792.42	2,025.69	996.99		11,818.11
9- 9-42	BC 169	North Point Road, Pennsyl- vania Railroad Underpass (Refund)			10,440.00		10,440.00

ITALICS INDICATE RED FIGURES.

EXHIBIT F—Continued

GENERAL CONSTRUCTION AND OPERATING FUND**STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948**

DATE AUTHOR- IZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPEN- TURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
8-31-42	H 269-1	Philadelphia Road, Cranbury Run to Boothby Hill—Concrete Surfacing	691,214.40	36,311.90			727,526.30
8-19-42	D 170X	Sharptown—Eldorado Road—Surface treatment	5,998.30	1,640.80			7,639.10
7-23-42	B 562	York Road, Willow Avenue to Pennsylvania Avenue—Resurfacing		155.47	45,077.31		45,232.78
7-14-42	K 139X	Chesterville—Millington Road—Sand Gravel Shoulders			2,329.17		2,329.17
5-27-42	Co 166X2	Sour Apple Tree Road—Install pipe culverts	2,731.10	3,173.97			5,905.07
5-19-42	BC 172	Erdman Avenue—Construction of Roadway	469,385.64	27,458.56			496,844.20
5-14-42	AA 255-3	Chesapeake Bay Ferry Terminal—St. Margaret's Road approach	179,977.38				179,977.38
4- 1-42	B 333-1	Eastern Avenue, City line to Back River—Construction of roadway	475,717.60	3.00	1,343.99		474,376.61
4- 1-42	B 463-2	North Point Road, Moffett Avenue to City Line—Relocation	1,738,725.34	90.42			1,738,634.92
3-31-42	B 333-5	Eastern Avenue, Marlyn Avenue to Martin Cloverleaf—Relocation	488,682.14	298.07	10,525.00		478,455.21
3- 4-42	Co 165X	Goldboro—Ingleside Road—Construct shoulders	32,948.46	10,768.25	31,092.27		74,808.98
2-28-42	B 333-3	Eastern Avenue, Back River to Marlyn Avenue—Construction	344,507.05	16,081.02	416.26		361,004.33
7-15-41	W 204-1	Bridge over Potomac River at Sandy Hook—Constructing substructure	303,939.09		33.23		303,972.32
8-24-36	W 204	Bridge over Potomac River at Sandy Hook—Preliminary	26,623.01	8.40			26,631.41
9-13-32 Prior to 7- 1-46	H 153	Falston Grade Elimination	32,534.58			300.00	32,834.58
		Miscellaneous Projects	100,313.99	42,956.73	25,723.57	30,058.34	199,052.63
	A 254	National Pike—Relocation, preliminary	10,340.88	5,946.73	221.64		16,509.25
	AA 261	Bridge over Spa Creek between Annapolis and Eastport—Preliminary	4,386.18	17.25			4,403.43
	AA 303	Laurel—Fort Meade Road—Preliminary	12,931.13	19.57	62.13		13,012.83
	AA 341	Davidsonville—Mayo Road—Preliminary	2,930.98	51.19	1,320.14		4,302.31
	AA 348	Parole to Ritchie Highway and Severn River Bridge—Preliminary	26,318.35		270.35		26,588.70
	AA 364	Severn River Bridge—Concrete surfacing	42.84	19,618.93	23.22		19,684.99
	AA 367	Defense Highway, General Highway to Bartgis Store—Surface course		56,011.04			56,011.04
	AA 392	Airport Road, Baltimore City Line to Municipal Airport—Preliminary (Partial Costs—see Baltimore County Project No. 577)			17,978.22		17,978.22
	B 332	Arbutus—Halethorpe Grade Elimination—Preliminary	13,283.76	9,045.05	1,997.83		24,326.64
	B 332-3	Bridge over Pennsylvania Railroad, Halethorpe—Construction		3,894.01	158,827.97		162,721.98

ITALICS INDICATE RED FIGURES.

EXHIBIT F—Continued

EXHIBIT F—Continued

GENERAL CONSTRUCTION AND OPERATING FUNDSTATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948

DATE AUTHOR- IZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPEN- DITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
	B 332-5	Underpass at Arbutus— Approaches			117,482.88	117,482.88	
	B 450	Westminster Pike—Preliminary	15,192.87	2,241.63	7.36	17,441.86	
	B 577	Airport Road, Baltimore City Line to Municipal Airport— Preliminary (Partial costs— see Anne Arundel County Project No. 392)			41,949.17	41,949.17	
	B 577-1	Hollins Ferry Road—Grading, draining, and surfacing			52,803.79	52,803.79	
	C 181	Mount Harmony—Chesapeake Beach Road—Preliminary		3,206.71		3,206.71	
	Cl 250	Westminster Pike—Preliminary	11,334.37	16.70		11,351.07	
	Cl 289	Bridge over Roop Branch— Reconstruction	16.11	401.92	738.12	1,156.15	
	Cl 293	Flash Signals on Route No. 30 at South End of Hampstead		234.00	1,381.23	1,615.23	
	Co 189	Flashing Light Signal on Route No. 313—Federalsburg			5,433.88	5,433.88	
	Co 192	Bridge over Choptank River at Denton—Construction		987.45	295.05	1,282.50	
	Ch 251	Scour Protection on Road— Potomac Bridge to Dahl- green, Virginia		389.43		389.43	
	Ch 256X	Converting Flash signals to 3 phase fixed time signal at Waldorf			700.54	700.54	
	Ch 257	Lyons Corner toward T-B— Prince George's County Line Road—Preliminary			3,804.24	3,804.24	
	Ch 259X	Install Traffic signals in La Plata			2,238.77	2,238.77	
	D 144	Vienna—Mount Holly Road— Preliminary	31,842.46	5.06		31,847.52	
	F 417	Relocation of National Pike	11,386.69	1,300.86		12,687.55	
	F 453X1	Route No. 17 through Myers- ville—Backfill and shoulders		1,492.02		1,492.02	
	G 155-1	Oakland—Keyser Ridge Road —Preliminary	4,927.34	4,001.20	2,225.33	11,153.87	
	H 314	Pulaski Highway, Harford County Line to Aberdeen— Preliminary			2,456.30	2,456.30	
	Ho 164-1	Edmondson Avenue to Co- lumbia Pike—Preliminary	7,112.76	8,006.75	41,204.70	56,324.21	
	Ho 207X	Deadman's Curve, Washington Boulevard—Preliminary			533.93	533.93	
	P 585	Forestville to District of Colum- bia Line—Preliminary		5,610.09	123.85	5,733.94	
	P 586	Meadows - Upper Marlboro Road—Preliminary		5,931.02	8,881.09	14,812.11	
	Q 164X	Centreville—Wye Mills Road, (Right of Way)—Widening	5,863.64	164.19	280.95	6,308.78	
	SM 281	Leonardtown - Hollywood Road—Preliminary		5,945.92	1,516.03	7,461.95	
	S 83-1	Pocomoke—Westover Road— Preliminary	9,780.45	7,631.78	10,219.93	27,632.16	
	S 156	Westover—Marion Road—Pre- liminary		5,700.99	935.33	6,636.32	
	W 212-4	Harper's Ferry Bridge—Cost of Rental		58,545.92	19,787.49	78,333.41	
	W 363	Hagerstown - Williamsport Road—Preliminary			3,887.78	3,887.78	
	Wo 223-1	Pocomoke—Virginia Line Road —Preliminary	43,470.74	485.36		43,956.10	
	Wo 253	Berlin—Herring Creek Road Preliminary			5,966.00	5,966.00	
	AW 591	Highway Planning Survey— P.W. Project	7,946.01	21,489.15	7,383.44	36,818.60	

EXHIBIT F—Continued

GENERAL CONSTRUCTION AND OPERATING FUND**STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED
JUNE 30, 1947 AND 1948**

DATE AUTHOR- IZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPEN- DITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS, JUNE 30, 1948	TOTAL
			WORK IN PROGRESS, JULY 1, 1946	FISCAL YEAR 1947	FISCAL YEAR 1948		
	AW 594-1	Baltimore-Washington Boule- vard and Harbor Bridge	4,949.76				4,949.76
	AW 595	Baltimore City Transportation Survey	105,015.68	31,495.72	5,610.28		142,121.68
	Various	Miscellaneous Projects	120,093.33	65,537.47	259,739.37		445,370.17
		TOTAL	\$9,065,230.08	\$7,829,557.35	\$11,432,198.29	\$20,115,105.83	\$48,442,091.55
SUMMARY							
7-1-47 to 6-30-48		Projects of Fiscal Year 1948	\$ 60,045.29	\$ 43,709.62	\$ 5,890,008.68	\$18,122,400.70	\$24,116,164.29
7-1-46 to 6-30-47		Projects of Fiscal Year 1947	238,397.74	1,133,040.44	3,005,129.87	1,195,327.61	5,571,895.66
7-1-45 to 6-30-46		Projects in Progress July 1, 1946	1,250,202.28	6,001,300.48	1,627,463.66	576,203.75	9,455,173.17
Prior to 6-30-45		Projects in Progress July 1, 1946 Preliminary Costs, etc.	7,057,418.44 449,156.33	326,081.70 325,425.11	131,307.75 778,288.33	221,170.77	7,745,978.66 1,552,879.77
		TOTAL	\$9,065,230.08	\$7,829,557.35	\$11,432,198.29	\$20,115,105.83	\$48,442,091.55

NOTES: The expenditures for the fiscal year 1947 of \$7,829,557.35 shown in this statement represent cash disbursements of \$7,893,213.97 less cash refunds of \$63,656.62.
The expenditures for the fiscal year 1948 of \$11,432,198.29 shown in this statement represent cash disbursements of \$11,779,709.35 less cash refunds and cost recoveries totaling \$347,511.06.

EXHIBIT G

MAINTENANCE FUND**STATEMENT OF EXPENDITURES FOR MAINTENANCE OF THE STATE SYSTEM OF
ROADS FOR THE FISCAL YEAR ENDED JUNE 30, 1948**

MAINTENANCE FUND:			
Maintenance costs—Schedule 1:			
District No. 1		\$450,603.47	
District No. 2		665,887.46	
District No. 3		938,503.09	
District No. 4		647,845.47	
District No. 5		825,107.37	
District No. 6		662,449.40	\$4,190,396.26
Acquisition of capital properties (service facilities):			
Accounting and commercial properties		\$ 8,022.21	
Operating engineers properties		20,767.55	
Plans and survey properties		13,336.41	
Sign and repair shop properties		15,876.27	
Laboratory properties		1,855.56	
Transportation equipment		75,629.53	
Construction equipment		467,116.88	
Small tools and equipment		44,886.61	
Signs and markers		11,020.86	658,511.88
			\$4,848,908.14
SIGN PERMIT REVENUE FUND:			
Personal services		\$ 6,279.56	
Traveling expenses		532.68	
Passenger car operation		607.41	
Supplies		16.69	7,436.34
Total			\$4,856,344.48

NOTE—The expenditures of \$4,856,344.48 shown in this statement represent cash disbursements of \$4,869,638.10 less cash refunds of \$13,293.62.

MAINTENANCE FUND

STATEMENT OF MAINTENANCE COSTS, BY DISTRICTS, FOR THE FISCAL YEAR ENDED JUNE 30, 1948

	TOTAL	DISTRICT					
		No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
ROADS—SURFACING:							
Patching—Joint and Craek Filling...	\$ 743,911.82	\$ 57,810.28	\$107,350.30	\$168,675.01	\$181,678.44	\$123,554.75	\$104,843.04
Frost Damage.....	368,648.52	1,424.28	125,444.35	105,528.27	18,892.45	87,666.23	29,692.94
Dragging.....	1,701.21	277.34	335.69	189.23	26.88	159.70	712.37
Base and Sub-base Repairs.....	8,562.93	659.52	3,425.62	.....	.....	4,323.11	154.68
Mud Jack Operation.....	3,185.37	.....	3,036.81	.....	8.50	140.06	.....
Retreatment.....	10,856.22	10,718.30	19.86	.....	.....	.....	118.06
TOTAL—ROADS, SURFACING.....	\$1,136,866.07	\$ 70,889.72	\$239,612.63	\$274,392.51	\$200,606.27	\$215,843.85	\$135,521.09
ROADS—OILING:							
Salaries—Supervision.....	\$ 1,761.97	.....	\$ 150.86	\$ 104.45	\$ 307.69	.....	\$ 1,198.97
Bituminous Material.....	62,763.98	\$ 17,000.79	5,820.91	13,820.93	9,957.99	.....	16,163.36
Applying Bituminous Material.....	86,769.73	165.29	527.17	9,605.47	7,392.17	\$ 60,769.20	8,310.43
Cover Material.....	136,473.56	28,684.05	12,317.38	50,704.47	.....	15,354.32	29,413.34
Hauling Cover Material.....	128,909.30	27,232.85	13,281.42	10,340.85	8,350.99	40,754.72	28,948.47
Sweeping.....	7,523.85	1,021.09	397.21	1,982.14	329.26	1,448.15	2,346.00
Rolling.....	11,134.53	1,296.05	305.78	2,222.21	1,417.63	2,905.37	2,987.49
Miscellaneous.....	8,449.77	107.25	149.49	1,856.07	776.75	60.42	5,499.79
TOTAL—ROADS, OILING.....	\$ 443,786.69	\$ 75,507.37	\$ 32,950.22	\$ 90,636.59	\$ 28,532.48	\$121,292.18	\$ 94,867.85
ROADS—SHOULDERS:							
Patching.....	\$ 324,411.24	\$ 76,617.19	\$ 26,022.70	\$ 89,583.70	\$ 45,378.74	\$ 76,692.42	\$ 10,116.49
Frost Damage.....	1,232.19	.....	436.78	641.30	.....	154.11	.....
Dragging.....	110,460.30	16,284.44	17,628.04	21,994.24	10,953.16	17,542.74	26,057.68
Sodding.....	212.01	194.21	17.80	.....	.....	.....	.....
Retreatment.....	3,453.98	.....	.....	3,010.15	.....	428.08	15.75
Mowing and Hand Cutting of Grass...	145,307.14	16,197.40	21,296.86	24,808.27	44,031.00	9,608.76	29,364.85
TOTAL—ROADS, SHOULDERS.....	\$ 585,076.86	\$109,293.24	\$ 65,402.18	\$140,037.66	\$100,362.90	\$104,426.11	\$ 65,554.77
ROADS—DRAINAGE:							
Ditches, Drains, and Culvert Clean- ing.....	\$ 349,341.89	\$ 18,420.68	\$ 60,380.15	\$ 62,418.18	\$ 54,815.49	\$120,471.48	\$ 32,835.91
Frost Damage.....	9,309.97	.....	777.87	.....	45.45	8,474.40	12.25
TOTAL—ROADS, DRAINAGE.....	\$ 358,651.86	\$ 18,420.68	\$ 61,158.02	\$ 62,418.18	\$ 54,860.94	\$128,945.88	\$ 32,848.16
DRAINAGE STRUCTURE REPAIRS (Including Bridges not over 20 ft. Span):							
Bridges and Culverts.....	\$ 33,467.00	\$ 4,674.70	\$ 10,418.93	\$ 6,044.72	\$ 788.79	\$ 2,290.57	\$ 9,249.29
Curbs and Gutters.....	7,695.45	84.94	13.56	5,078.92	2,432.05	.....	85.98
Catch Basins.....	5,955.34	352.11	282.01	1,964.97	2,576.35	525.94	253.96
Spillways.....	663.06	170.34	22.84	291.82	154.07	.....	23.99
Riprapping.....	2,362.48	86.18	1,351.74	162.51	296.42	277.17	188.46
Underpass at Hyattsville.....	87.13	.....	.....	.....	.....	87.13	.....
TOTAL—DRAINAGE STRUCTURE REPAIRS.....	\$ 50,230.46	\$ 5,368.27	\$ 12,089.08	\$ 13,542.94	\$ 6,247.68	\$ 3,180.81	\$ 9,801.68
STRUCTURE REPAIRS (Other than Drain- age Structures):							
Guard Rails.....	\$ 48,690.72	\$ 657.88	\$ 1,338.15	\$ 8,165.01	\$ 16,369.69	\$ 7,544.64	\$ 14,615.35
Retaining Walls.....	5,224.70	.....	131.91	188.60	340.69	2,926.19	1,637.31
Slope Walls.....	125.65	97.69	.....	.....	27.96	.....	.....
TOTAL—STRUCTURE REPAIRS.....	\$ 54,041.07	\$ 755.57	\$ 1,470.06	\$ 8,353.61	\$ 16,738.34	\$ 10,470.83	\$ 16,252.66
ROADSIDES:							
Cutting and Clearing Vegetation...	\$ 124,205.15	\$ 12,268.05	\$ 7,627.92	\$ 18,696.88	\$ 10,317.54	\$ 42,501.01	\$ 32,793.75
Frost Damage.....	4.15	.....	.....	.....	.....	.....	4.15
Removal of Debris.....	32,919.84	2,658.54	2,480.29	9,544.90	5,777.43	2,237.33	10,221.35
Highway Beautification.....	23,071.45	365.57	1,470.81	9,903.39	9,824.60	414.92	1,092.16
Cuts.....	7,004.68	.....	9.00	6,119.75	69.89	155.92	650.12
Fills.....	7,179.94	200.00	42.71	4,726.20	1,460.25	747.00	3.78
Widening.....	19,900.77	33.45	12,293.48	.....	.....	.....	7,573.84
Resetting Fences and Adjustments to Private Properties.....	3,700.97	.....	1,039.11	16.71	378.85	128.49	2,137.81
Moving Equipment.....	22,022.89	3,212.40	2,951.84	2,701.45	4,032.91	6,953.81	2,170.48
TOTAL—ROADSIDES.....	\$ 240,009.84	\$ 18,738.01	\$ 27,915.16	\$ 51,709.28	\$ 31,861.47	\$ 53,138.48	\$ 56,647.44

MAINTENANCE FUND**STATEMENT OF MAINTENANCE COSTS, BY DISTRICTS, FOR THE FISCAL YEAR ENDED JUNE 30, 1948**

	TOTAL	DISTRICT					
		No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
TRAFFIC SERVICE:							
Highway Markers	\$ 132,615.27	\$ 10,628.02	\$ 16,976.11	\$ 26,496.42	\$ 30,498.26	\$ 21,327.61	\$ 26,688.85
Surface Marking (Guide Lines)	125,909.24	12,312.36	12,998.61	38,913.99	10,773.97	21,998.99	28,911.32
Snow Removal	157,511.74	9,817.65	24,276.54	36,152.23	27,188.55	20,854.94	39,221.83
Ice Treatment	231,794.90	9,903.23	34,238.37	49,399.55	49,261.38	27,681.98	61,310.39
Traffic Count	11,157.49	1,652.22	1,439.43	2,182.03	2,857.79	1,025.97	2,000.05
Traffic Lights	23,914.03	470.86	1,575.19	5,860.52	9,612.85	5,915.46	479.15
Frost Damage	489.13						489.13
Erecting and Dismantling Snow Fences	75,949.13	5,106.37	14,110.24	20,138.17	10,879.15	2,589.33	23,125.87
Miscellaneous	27,059.28	1,252.72	3,022.02	4,943.28	1,398.78	11,055.46	5,387.02
TOTAL—TRAFFIC SERVICE	\$ 786,400.21	\$ 51,143.43	\$108,636.51	\$184,086.19	\$142,470.73	\$112,449.74	\$187,613.61
BRIDGES (Over 20 ft. Span) AND GRADE SEPARATIONS:							
Floors	\$ 11,754.23	\$ 1,469.11	\$ 7,457.23	\$ 1,226.94	\$ 609.19	\$ 460.04	\$ 531.72
Balustrades or Head Walls	6,746.34	506.56	584.99	310.75	4,562.98	20.73	760.33
Abutments and Piers	1,675.21	284.30	963.47	117.49			309.95
Steel Structures	669.68	64.90	26.13	215.64		53.14	309.87
Painting	2,199.85	303.15	18.19	629.19	122.79	238.62	887.91
Lighting	19,951.57	6,382.51	2,381.28	7,355.86	2,678.27	468.53	685.12
Operation of Draws	103,201.58	46,674.27	38,327.61	16,490.98	16.21	1,692.51	
Miscellaneous	2,859.31	335.89	1,119.28	487.80	630.52	157.59	128.23
TOTAL—BRIDGES AND GRADE SEPARATIONS	\$ 149,057.77	\$ 56,020.69	\$ 50,878.18	\$ 26,834.65	\$ 8,619.96	\$ 3,091.16	\$ 3,613.13
APPORTIONMENT OF ADMINISTRATIVE AND GENERAL EXPENSE	\$ 386,275.43	\$ 44,466.49	\$ 65,775.42	\$ 86,491.48	\$ 57,544.70	\$ 72,268.33	\$ 59,729.01
TOTAL	\$4,190,396.26	\$450,603.47	\$665,887.46	\$938,503.09	\$647,845.47	\$825,107.37	\$662,449.40

EXHIBIT H

MAINTENANCE FUND**STATEMENT OF EXPENDITURES FOR MAINTENANCE OF THE STATE SYSTEM OF ROADS FOR THE FISCAL YEAR ENDED JUNE 30, 1947**

MAINTENANCE FUND:			
Maintenance costs—Schedule 1:			
District No. 1		\$319,365.71	
District No. 2		472,125.20	
District No. 3		756,302.74	
District No. 4		578,389.19	
District No. 5		671,657.63	
District No. 6		535,603.60	\$3,333,444.07
Acquisition of Capital Properties (service facilities):			
Accounting and commercial properties	\$ 6,179.64		
Operating engineers properties	9,056.58		
Plans and survey properties	7,987.43		
Sign and repair shop properties	14,524.38		
Laboratory properties	1,709.72		
Transportation equipment	75,105.32		
Construction equipment	111,789.52		
Small tools and equipment	18,147.07		
Signs and markers	8,324.59		
			252,824.25
			\$3,586,268.32
SIGN PERMIT REVENUE FUND:			
Personal services		\$ 2,289.00	
Traveling expenses		475.26	
Passenger car operation		457.39	
Printing		182.00	
			3,403.65
TOTAL			\$3,589,671.97

NOTE—The expenditures of \$3,589,671.97 shown in this statement represent cash disbursements of \$3,602,325.69 less cash refunds of \$12,653.72.

MAINTENANCE FUND

STATEMENT OF MAINTENANCE COSTS, BY DISTRICTS, FOR THE FISCAL YEAR ENDED
JUNE 30, 1947

	TOTAL	DISTRICT					
		No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
ROADS—SURFACING:							
Patching—Joint and Crack Filling...	\$ 727,285.62	\$ 53,031.83	\$ 94,049.65	\$174,000.16	\$157,124.99	\$145,899.24	\$103,179.75
Dragging.....	897.52	.....	114.71	10.14	.....	.....	772.67
Base and Sub-base Repairs.....	11,522.85	242.59	11,280.26	.....	.....	.....	.....
Mud Jack Operation.....	3,257.42	2,921.31	261.59	.80	59.05	13.42	1.25
Reseating Concrete Slabs with Bituminous Material.....	48.59	48.59	.....	.....	.....	.....	.....
TOTAL—ROADS, SURFACING.....	\$ 743,012.00	\$ 56,244.32	\$105,706.21	\$174,011.10	\$157,184.04	\$145,912.66	\$103,953.67
ROADS—OILING:							
Salaries—Supervision.....	\$ 2,336.71	\$ 9.75	\$ 424.76	\$ 773.53	\$ 384.87	\$ 19.34	\$ 724.46
Bituminous Material.....	12,951.07	172.51	10,743.07	1,314.37	.....	.....	721.12
Applying Bituminous Material.....	131,776.54	10,737.12	11,871.84	36,935.71	11,191.88	46,836.87	14,203.12
Cover Material.....	201,833.18	33,079.67	26,559.00	60,956.46	9,200.42	32,674.15	39,363.48
Hauling Cover Material.....	123,148.78	20,525.01	16,005.59	19,378.22	13,222.57	35,147.16	18,870.23
Sweeping.....	7,554.31	785.24	1,430.05	2,114.84	595.96	1,604.60	1,023.62
Rolling.....	15,412.56	1,294.60	1,834.47	3,814.69	2,136.53	3,346.28	2,985.99
Miscellaneous.....	11,625.06	367.03	1,427.68	4,207.06	1,297.50	178.57	4,147.22
TOTAL—ROADS, OILING.....	\$ 506,638.21	\$ 66,970.93	\$ 70,296.46	\$129,494.88	\$ 38,029.73	\$119,806.97	\$ 82,039.24
ROADS—SHOULDERS:							
Patching.....	\$ 322,351.00	\$ 24,780.78	\$ 43,568.54	\$112,588.98	\$ 59,135.57	\$ 73,253.08	\$ 9,024.05
Dragging.....	129,150.73	18,457.17	20,396.11	10,785.73	8,832.51	27,558.14	43,121.07
Sodding.....	74.94	22.45	8.07	.....	44.42	.....	.....
Retreatment.....	2,466.78	.....	.....	1,739.46	.....	727.32	.....
Mowing and Hand Cutting of Grass.....	136,673.76	11,798.07	21,699.54	25,265.71	36,334.38	13,674.32	27,901.74
TOTAL—ROADS, SHOULDERS.....	\$ 590,717.21	\$ 55,058.47	\$ 85,672.26	\$150,379.88	\$104,346.88	\$115,212.86	\$ 80,046.86
ROADS—DRAINAGE (Ditches, Drains, and Culvert Cleaning).....							
	\$ 390,387.60	\$ 29,573.20	\$ 50,657.31	\$ 58,474.24	\$ 64,810.47	\$150,979.11	\$ 35,893.27
DRAINAGE STRUCTURE REPAIRS (Including Bridges not over 20 ft. Span):							
Bridges and Culverts.....	\$ 19,221.68	\$ 3,028.16	\$ 5,019.14	\$ 3,136.90	\$ 3,579.35	\$ 1,182.20	\$ 3,275.93
Curbs and Gutters.....	6,195.38	604.84	550.73	938.04	2,602.10	1,375.87	123.80
Catch Basins.....	6,702.71	376.57	16.21	620.92	4,242.68	1,314.55	131.78
Spillways.....	404.94	100.71	.....	.....	304.23	.....	.....
Riprapping.....	3,197.01	23.02	918.83	.....	2,191.76	56.03	7.37
Underpass at Hyattsville.....	10.09	.....	.....	.....	.....	10.09	.....
TOTAL—DRAINAGE STRUCTURE REPAIRS.....	\$ 35,731.81	\$ 4,133.30	\$ 6,504.91	\$ 4,695.86	\$ 12,920.12	\$ 3,938.74	\$ 3,538.88
STRUCTURE REPAIRS (Other than Drainage Structures):							
Guard Rails.....	\$ 73,368.23	\$ 5,891.92	\$ 7,296.30	\$ 11,823.18	\$ 20,827.31	\$ 10,818.24	\$ 16,711.28
Retaining Walls.....	2,184.06	.....	.....	28.48	1,500.62	.....	654.96
Slope Walls.....	250.89	196.16	.....	.....	54.73	.....	.....
TOTAL—STRUCTURE REPAIRS.....	\$ 75,803.18	\$ 6,088.08	\$ 7,296.30	\$ 11,851.66	\$ 22,382.66	\$ 10,818.24	\$ 17,366.24
ROADSIDES:							
Cutting and Clearing Vegetation.....	\$ 109,418.70	\$ 22,579.29	\$ 5,673.18	\$ 18,420.63	\$ 6,114.07	\$ 25,596.74	\$ 31,034.79
Removal of Debris.....	18,345.35	744.55	2,084.42	6,716.43	4,583.29	792.92	3,423.74
Highway Beautification.....	24,198.48	315.25	1,953.14	8,466.53	11,787.16	624.21	1,052.19
Cuts.....	12,271.30	.....	309.47	9,815.53	646.07	199.23	1,301.00
Fills.....	4,019.46	.....	99.35	3,690.98	25.77	193.35	10.01
Widening.....	12,425.84	.....	11,401.18	58.39	.....	.....	966.27
Resetting Fences and Adjustments to Private Properties.....	664.89	.....	.....	87.68	3.83	8.59	564.79
Moving Equipment.....	21,390.93	3,129.41	4,095.76	3,266.83	2,492.08	7,418.68	988.17
TOTAL—ROADSIDES.....	\$ 202,734.95	\$ 26,768.50	\$ 25,616.50	\$ 50,523.00	\$ 25,652.27	\$ 34,833.72	\$ 39,340.96
TRAFFIC SERVICE:							
Highway Markers.....	\$ 124,134.64	\$ 7,251.18	\$ 13,330.55	\$ 27,806.00	\$ 32,741.46	\$ 23,109.60	\$ 19,895.85
Surface Marking (Guide Lines).....	81,308.42	10,098.47	6,865.27	15,721.12	27,713.05	8,891.22	12,019.29
Snow Removal.....	228,225.42	8,271.22	32,350.74	54,944.72	39,131.45	29,866.76	63,660.53
Ice Treatment.....	123,770.86	3,439.84	14,299.24	26,162.25	23,248.71	10,252.81	46,368.01
Traffic Count.....	8,095.76	1,498.29	1,153.76	962.13	2,594.79	672.08	1,214.71
Traffic Lights.....	23,698.29	192.01	1,856.95	6,464.06	11,248.54	3,636.77	299.96
Erecting and Dismantling Snow Fences.....	79,934.07	5,431.14	12,265.20	21,626.82	11,241.91	8,377.46	20,991.54
Miscellaneous.....	10,507.41	920.44	1,521.29	1,992.96	1,113.20	2,342.89	2,616.63
TOTAL—TRAFFIC SERVICE.....	\$ 679,674.87	\$ 37,102.59	\$ 83,643.00	\$155,680.06	\$149,033.11	\$ 87,149.59	\$167,066.52

EXHIBIT H, Schedule 1—Concluded

MAINTENANCE FUND**STATEMENT OF MAINTENANCE COSTS, BY DISTRICTS, FOR THE FISCAL YEAR ENDED
JUNE 30, 1947**

	TOTAL	DISTRICT					
		No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
BRIDGES (Over 20 ft. Span) AND GRADE SEPARATIONS:							
Floors.....	\$ 17,189.75	\$ 866.39	\$ 5,054.50	\$ 6,237.84	\$ 133.25	\$ 564.07	\$ 4,333.70
Balustrades or Head Walls.....	1,211.16	80.40	105.94	9.31	667.78	54.26	293.47
Abutments and Piers.....	2,303.60	1,755.83	150.23	9.82	38.87	26.88	321.97
Steel Structures.....	721.44	6.28		569.25			145.91
Painting.....	1,825.46	886.54	150.73	34.15	90.03		664.01
Lighting.....	13,103.88	4,613.32	2,314.81	2,184.53	2,779.48	612.84	598.90
Operation of Draws.....	70,720.78	29,157.06	28,222.87	11,768.45	8.40	1,564.00	
Telephone Bills.....	182.45	60.50	121.95				
Miscellaneous.....	1,485.72		611.22	378.71	312.10	183.69	
TOTAL—BRIDGES AND GRADE SEPARATIONS	\$ 108,744.24	\$ 37,426.32	\$ 36,732.25	\$ 21,192.06	\$ 4,029.91	\$ 3,005.74	\$ 6,357.96
TOTAL	\$3,333,444.07	\$319,365.71	\$472,125.20	\$756,302.74	\$578,389.19	\$671,657.63	\$535,603.60

EXHIBIT I

COUNTY MAINTENANCE FUNDS
STATEMENT OF EXPENDITURES FOR MAINTENANCE OF COUNTY ROAD SYSTEMS
FOR THE FISCAL YEAR ENDED JUNE 30, 1948

	TOTAL	ROADWAYS	ROADSIDE AND GRADE	DRAINAGE STRUCTURES AND FACILITIES	BRIDGES	OILING	SNOW REMOVAL	SICK LEAVE	VACATION LEAVE	COMPENSATION INSURANCE	MISCELLANEOUS	PORTION OF ADMINISTRATIVE AND GENERAL EXPENSES
CALVERT COUNTY	\$ 83,144.90	\$ 33,575.06	\$ 13,568.83	\$ 9,530.58	\$ 949.79	\$ 14,019.67	\$ 1,121.89	\$ 280.79	\$ 1,717.72	\$ 534.26	\$ 972.93	\$ 6,873.38
CAROLINE COUNTY	110,719.35	28,169.02	39,499.80	15,180.31	3,986.15	402.21	1,549.09	1,251.47	3,637.48	731.61	5,984.91	10,327.30
CECIL COUNTY	172,077.65	72,850.07	35,458.74	15,319.42	13,750.17	1,118.48	2,462.87	1,342.52	5,738.25	3,257.83	5,053.45	15,725.85
CHARLES COUNTY	135,228.60	65,514.78	10,124.42	25,106.34	4,209.27	10,691.03	2,462.87	778.74	2,988.08	898.49	1,822.37	13,095.08
DORCHESTER COUNTY	1,059.87	221.32				626.93				142.29		69.33
KENT COUNTY	65,855.96	25,739.70	14,081.82	11,472.27	724.07	781.05	1,766.91	680.07	3,241.22	1,236.23	83.27	6,049.35
PRINCE GEORGE'S COUNTY	111.96									104.64		7.32
QUEEN ANNE'S COUNTY	123,309.14	38,329.45	18,972.30	12,086.83	8,094.45	17,257.18	1,584.11	1,231.68	4,021.99	1,328.26	7,946.22	12,456.58
ST. MARY'S COUNTY	104,313.73	43,781.29	27,472.48	3,218.33	1,299.62	10,187.57	1,414.04	633.67	4,130.46	1,059.06	1,994.12	9,123.06
SOMERSET COUNTY	121,092.04	43,933.75	3,635.61	23,744.81	14,454.31	15,946.37		657.23	4,041.49	782.91	2,423.10	11,472.46
TALBOT COUNTY	248,973.80	114,875.37	48,001.95	23,069.76	2,998.59	25,010.91	496.50	494.56	3,719.59	852.33	4,064.00	25,390.18
WICOMICO COUNTY	209,344.47	88,868.66	9,317.61	13,747.14	20,827.94	44,035.00	399.56	981.50	6,269.49	1,668.39	129.40	23,099.78
WORCESTER COUNTY	170,049.62	71,054.57	19,189.86	26,693.86	10,866.56	16,562.37	98.38	1,015.93	5,756.42	1,369.46	182.44	17,259.77
TOTAL	\$1,545,281.09	\$626,913.04	\$239,323.51	\$179,169.65	\$82,160.92	\$156,638.77	\$10,893.35	\$9,348.16	\$45,262.19	\$13,965.79	\$30,656.27	\$150,949.44

NOTE—The total expenditures of \$1,545,281.09 shown in this statement represent cash disbursements of \$1,545,953.81 less cash refunds of \$672.72.

EXHIBIT J

COUNTY MAINTENANCE FUNDS
STATEMENT OF EXPENDITURES FOR MAINTENANCE OF COUNTY ROAD SYSTEMS
FOR THE FISCAL YEAR ENDED JUNE 30, 1947

	TOTAL	ROADWAYS	ROADSIDE AND GRADE	DRAINAGE STRUCTURES AND FACILITIES	BRIDGES	OILING	SNOW REMOVAL	SICK LEAVE AND VACATION LEAVE	COMPENSATION INSURANCE	MISCELLANEOUS	CHARGE FOR USE OF CAPITAL PROPERTIES OF THE COMMISSION
CALVERT COUNTY	\$ 73,045.95	\$ 29,097.12	\$ 12,548.22	\$ 7,227.01	\$ 2,114.36	\$ 16,265.40	\$ 950.05	\$ 1,006.23	\$ 548.67	\$ 1,002.74	\$ 2,286.15
CAROLINE COUNTY	88,732.38	20,407.30	31,004.33	8,862.87	5,891.95	10,158.53	1,650.14	3,747.90	922.30	3,876.99	2,210.07
CECIL COUNTY	167,054.10	56,694.18	35,551.80	12,740.33	17,872.47	26,636.88	7,445.30	4,292.00	649.95	486.47	4,684.63
CHARLES COUNTY	127,077.78	55,829.14	21,037.26	30,219.40	4,493.22	3,537.20	2,140.88	2,318.68	1,347.32	2,228.95	3,925.73
DORCHESTER COUNTY	146,830.04	67,607.05	7,017.04	9,828.70	12,787.36	35,771.84	352.79	5,631.92	1,179.28	2,235.22	4,418.84
KENT COUNTY	74,282.78	24,895.91	16,468.87	10,955.53	1,308.50	7,415.66	5,018.46	2,946.51	617.04	2,474.39	2,181.91
PRINCE GEORGE'S COUNTY	126,262.33	43,498.75	12,563.66	21,029.45	2,927.39	35,180.05	5,150.15	902.97	621.32	115.66	4,272.93
QUEEN ANNE'S COUNTY	101,069.83	33,708.56	23,559.37	9,216.52	3,412.00	10,356.89	2,882.17	3,936.06	1,649.94	9,407.46	2,940.86
ST. MARY'S COUNTY	103,186.60	23,174.49	21,710.46	2,399.22	794.62	38,355.87	360.37	3,287.23	1,605.19	7,859.99	3,639.16
SOMERSET COUNTY	102,899.00	45,784.04	5,059.95	11,721.50	9,586.51	20,609.78	35.30	3,594.48	1,045.78	2,449.90	3,011.76
TALBOT COUNTY	137,790.68	54,375.17	23,258.18	20,886.02	4,436.26	18,968.59	2,293.18	3,316.82	908.32	5,180.17	4,089.97
WICOMICO COUNTY	130,798.54	50,392.37	16,626.37	9,029.84	16,887.61	24,968.50	117.43	4,860.75	1,931.35	2,316.81	3,667.51
WORCESTER COUNTY	140,516.50	49,560.91	20,878.83	9,849.65	18,475.89	25,717.96		6,626.47	1,732.22	3,721.62	3,952.95
TOTAL	\$1,519,546.51	\$555,024.99	\$247,284.34	\$163,966.04	\$100,988.14	\$273,961.15	\$28,396.22	\$46,468.11	\$14,818.68	\$43,356.37	\$45,282.47

COUNTY MAINTENANCE FUNDS

STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED JUNE 30, 1947 AND 1948

DATE AUTHORIZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXENDITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS JUNE 30, 1948	TOTAL
			PRIOR TO JULY 1, 1946 (On work incomplete at that date)	FISCAL YEAR 1947	FISCAL YEAR 1948		
ALLEGANY COUNTY							
10/ 3/45	A 144- 38	Allotment to Lonaconing, 1946.....		\$ 1,350.00			\$ 1,350.00
10/29/46	144- 41	Allotment to Lonaconing, 1947.....		1,300.00			1,300.00
		Total.....		\$ 2,650.00			\$ 2,650.00
ANNE ARUNDEL COUNTY							
10/26/46	AA 166- 29	Allotment to Annapolis, 1947.....		\$ 9,204.27			\$ 9,204.27
1/23/46	261- 3	Bridge over Spa Creek, Eastport—Annapolis.....			\$ 1,767.88		1,767.88
7/ 1/41	292- 1	Bartgis Store—Conoway's Bridge.....	\$ 47,151.94		3,055.05	\$10,293.01	60,500.00
	293	Chinquapin—Round Road—Preliminary.....	503.44	400.99			904.43
7/ 1/41	293- 1	Chinquapin—Round Road—Construction of road.....	19,098.71		12,325.64	15,156.65	46,581.00
		Total.....	\$ 66,754.09	\$ 9,605.26	\$17,148.57	\$25,449.66	\$118,957.58
CALVERT COUNTY							
6/12/45	C 71- 21	Allotments to Incorporated Town of North Beach, 1944 and 1945.....	\$ 1,348.51	\$ 57.67			\$ 1,406.18
6/12/45	71- 22	Allotments to Incorporated Town of Chesapeake Beach, 1944 and 1945.....	245.91	554.09			800.00
1/30/47	71- 23	Allotment to Incorporated Town of Chesapeake Beach, 1946.....		202.74			202.74
1/30/47	71- 24	Allotment to Incorporated Town of North Beach, 1946.....		400.00			400.00
1/30/47	71- 25	Allotment to Incorporated Town of Chesapeake Beach, 1947.....			\$ 488.18		488.18
1/30/47	71- 26	Allotment to Incorporated Town of North Beach, 1947.....		400.00			400.00
7/ 9/46	180X	Barstow-Stoakley Road—Widening.....		1,224.71			1,224.71
		Total.....	\$ 1,594.42	\$ 2,839.21	\$ 488.18		\$ 4,921.81
CAROLINE COUNTY							
10/26/46	Co 92	Cement.....	\$ 19.20				\$ 19.20
7/ 3/46	187X	Storm Damage—Repairs to County Roads.....		\$ 37,092.29			37,092.29
		Total.....	\$ 19.20	\$ 37,092.29			\$ 37,111.49
CECIL COUNTY							
10/26/46	Ce 149	Cement.....	\$ 12.71				\$ 12.71
11/14/44	149- 90	Allotments to Incorporated Towns, 1945.....	2,597.30	\$ 400.00	\$ 677.70		3,675.00
10/ 1/45	149- 91	Allotments to Incorporated Towns, 1946.....		800.00	2,806.31		3,606.31
10/26/46	149- 92	Allotments to Incorporated Towns, 1947.....		400.00	3,275.00		3,675.00
7/30/46	293X	Storm damage—Repairs to County Roads.....		21,805.82			21,805.82
7/25/47	305	Little Elk Creek—To rebuild bridge.....		636.04	636.04		
		Total.....	\$ 2,610.01	\$ 24,041.86	\$ 6,122.97		\$ 32,774.84
CHARLES COUNTY							
3/13/45	Ch 140X 22	Allotment to Incorporated Town of Indian Head, 1940 through 1945.....	\$ 1,081.26	\$ 64.11			\$ 1,145.37
1/30/47	140X 23	Allotment to Incorporated Town of La Plata, 1946.....	3,672.28	2,165.21			1,507.07
11/ 6/47	140- 24	Allotment to Incorporated Town of La Plata, 1947.....		2,222.26			2,222.26
7/24/45	248X	Storm Damage—Repairs to County Roads.....	11,099.62	1,714.95			12,814.57
		Total.....	\$ 15,853.16	\$ 1,836.11			\$ 17,689.27

ITALICS INDICATE RED FIGURES.

EXHIBIT K—Continued

COUNTY MAINTENANCE FUNDS

STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED JUNE 30, 1947 AND 1948

DATE AUTHORIZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPENDITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS JUNE 30, 1948	TOTAL
			PRIOR TO JULY 1, 1946 (On work incomplete at that date)	FISCAL YEAR 1947	FISCAL YEAR 1948		
FREDERICK COUNTY							
9/30/42	219- 30	Allotments to Incorporated Towns, 1942	\$ 11,700.00	\$ 500.00	\$ 200.00		\$ 12,400.00
2/ 9/43	219- 31	Allotments to Incorporated Towns, 1943	11,700.00	500.00	200.00		12,400.00
10/26/43	219- 32	Allotments to Incorporated Towns, 1944	11,700.00	500.00	200.00		12,400.00
11/18/44	219- 33	Allotments to Incorporated Towns, 1945	10,600.00	500.00	1,300.00		12,400.00
10/ 3/45	219- 34	Allotments to Incorporated Towns, 1946	300.00	7,500.00	4,600.00		12,400.00
10/26/46	219- 35	Allotments to Incorporated Towns, 1947			12,400.00		12,400.00
		Total	\$ 46,000.00	\$ 9,500.00	\$18,900.00		\$ 74,400.00
HARFORD COUNTY							
6/30/47	158- 27	Allotment to Incorporated Town of Aberdeen, 1946			\$ 2,250.00		\$ 2,250.00
6/30/47	158- 28	Allotment to Incorporated Town of Bel Air, 1946			3,000.00		3,000.00
		Total			\$ 5,250.00		\$ 5,250.00
MONTGOMERY COUNTY							
10/ 3/45	257- 25	Allotments to Incorporated Towns, 1946	\$ 4,099.09	\$ 617.46	\$ 103.77		\$ 4,820.32
10/26/46	257- 26	Allotments to Incorporated Towns, 1947		77.83	4,700.98		4,778.81
	384- 1	River Road	104.90				104.90
		Total	\$ 4,203.99	\$ 695.29	\$ 4,804.75		\$ 9,704.03
PRINCE GEORGE'S COUNTY							
	252- 1	Guy Avenue and Baltimore-Washington Boulevard			\$ 64.00		\$ 64.00
10/26/46	267	Cement	\$ 1.50				1.50
6/ 2/43	267X107	Allotment to Upper Marlboro, 1942	1,740.73	\$ 122.37	500.00		1,363.10
6/ 2/43	267X108	Allotment to District Heights, 1942	245.69	496.50			742.19
6/ 2/43	267X109	Allotment to Boulevard Heights, 1942	67.17	229.82			296.99
2/ 9/43	267- 110	Allotments to Incorporated Towns, 1943	14,989.58	186.71			15,176.29
10/26/43	267- 111	Allotments to Incorporated Towns, 1944	14,989.58	186.71			15,176.29
11/14/44	267- 112	Allotments to Incorporated Towns, 1945	14,747.32	257.64			15,004.96
10/ 3/45	267- 114	Allotments to Incorporated Towns, 1946	261.91	14,036.78	877.60		15,176.29
10/26/46	267- 115	Allotments to Incorporated Towns, 1947		14,147.01	1,029.28		15,176.29
		Total	\$ 47,043.48	\$ 29,663.54	\$ 1,470.88		\$ 78,177.90
QUEEN ANNE'S COUNTY							
		Town of Barclay			\$ 554.39		\$ 554.39
		Total			\$ 554.39		\$ 554.39
ST. MARY'S COUNTY							
3/ 4/42	241X	Bushwood Wharf (Bushwood P. O.)—Clearing and Grubbing	\$ 182.26				\$ 182.26
7/24/46	271X	Storm Damage-Repairs to County Roads	4,413.32				4,413.32
		Total	\$ 4,595.58				\$ 4,595.58
SOMERSET COUNTY							
11/22/43	140X	Grading and Reconditioning of Various Roads			\$ 3,726.19		\$ 3,726.19
		Total			\$ 3,726.19		\$ 3,726.19
TALBOT COUNTY							
4/ 1/47	57- 12	Resurface Roads in Talbot County		\$ 13,601.51	\$ 7,492.78		\$ 21,094.29
7/ 3/46	110X	Storm Damage-Repairs to County Roads		5,270.13			5,270.13
		Total		\$ 18,871.64	\$ 7,492.78		\$ 26,364.42

ITALICS INDICATE RED FIGURES.

EXHIBIT K—Concluded

COUNTY MAINTENANCE FUNDS**STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED JUNE 30, 1947 AND 1948**

DATE AUTHORIZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPENDITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS JUNE 30, 1948	TOTAL
			PRIOR TO JULY 1, 1946 (On work incomplete at that date)	FISCAL YEAR 1947	FISCAL YEAR 1948		
		WICOMICO COUNTY					
1/ 9/45	216X	Work on Roads other than County Roads..	\$ 1,513.89	\$ 851.86	\$ 662.03		
3/ 6/47	236X	Surface treat certain roads		21,608.68	21,608.68		
		Total	\$ 1,513.89	\$ 20,756.82	\$22,270.71		
		WORCESTER COUNTY					
1/18/45	270	Repair certain roads not in County or State Roads System		\$ 3,360.25	\$ 3,360.25		
3/ 6/47	291X	Surface treat certain roads		24,800.37	24,800.37		
		Total		\$ 28,160.62	\$28,160.62		
		TOTAL	\$190,187.82	\$185,712.64	\$15,527.38	\$25,449.66	\$416,877.50

NOTES:

The expenditures for 1947 of \$185,712.64 shown in this statement represent cash disbursements of \$188,879.92 less cash refunds of \$3,167.28.

The expenditures for 1948 of \$15,527.38 shown in this statement represent cash disbursements of \$17,148.15 less cash refunds of \$1,620.77.

ITALICS INDICATE RED FIGURES.

COUNTY CONSTRUCTION FUNDS

STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED JUNE 30, 1947 AND 1948

DATE AUTHORIZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPENDITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS JUNE 30, 1948	TOTAL
			PRIOR TO JULY 1, 1946 (On work incomplete at that date)	FISCAL YEAR 1947	FISCAL YEAR 1948		
A ALLEGANY COUNTY							
	A	Vocke Road—Preliminary	\$ 814.39	\$ 1,543.65	\$ 2,204.92		\$ 153.12
7/29/47	381-1	Vocke Road—Construction of Roadway		919.54	38,459.16	\$ 8,015.81	47,394.51
	382	Mill Run Road—Preliminary	1,370.65	3,177.17			4,547.82
	382-1	Mill Run Road—Construction of Roadway		320.76	9.47		330.23
	387	North Branch Crossing Elimination—Preliminary		566.31			566.31
	388	Frostburg to Midlothian Road—Preliminary		1,493.72	24.98		1,518.70
		Total	\$ 2,185.04	\$ 8,021.15	\$ 36,288.69	\$ 8,015.81	\$ 54,510.69
AA ANNE ARUNDEL COUNTY							
	242	Friendship—Old Colony Cove Road—Preliminary	\$ 2,889.07	\$ 471.51			\$ 3,360.58
	242-1	Friendship—Old Colony Cove Road—Construction of Roadway	3,515.32	1,641.77	\$ 2,048.96		7,206.05
	242-2	Friendship—Old Colony Cove Road—Property Adjustment	1,548.93				1,548.93
	262	Stoney Creek Bridge—County Share		247,103.80			247,103.80
	262-1	Spa Creek Bridge—County Share		660.45			660.45
	397	Botts Hill—Forman Road—Preliminary			1,277.34		1,277.34
		Total	\$ 7,953.32	\$249,877.53	\$ 3,326.30		\$ 261,157.15
B BALTIMORE COUNTY							
9/30/46	470	Butler Road—Preliminary	\$ 13,821.93	\$ 4,694.36	\$ 1,957.37		\$ 20,473.66
6/9/48	470-2	Butler Road—Construction of Roadway		3,907.56	20,864.22	\$ 314,160.63	338,932.41
4/9/47	470-3	Butler Road Bridge at Glyndon—Construction		3,379.16	180,420.38	120,515.26	304,314.80
	470-4	Butler Road—Lower Water Mains			15.83		15.83
2/25/48	470-5	Construction of Loop at Glyndon				747.50	747.50
	470-6	Butler Road—Adjustment to Glyndon Women's Club Property			63.19		63.19
4/27/43	471	Silver Spring Road—Preliminary	11,908.80	4,173.64	42.40		16,124.84
12/2/46	484-2	Leeds Avenue Sidewalk—Construction		10,937.74			10,937.74
		Total	\$ 25,730.73	\$ 27,092.46	\$ 203,363.39	\$ 435,423.39	\$ 691,609.97
C CALVERT COUNTY							
4/3/46	179	Bridge on Mill Branch Road—Construction	\$ 805.36	\$ 2,659.63			\$ 3,464.99
12/10/46	182	Road, Appeals to Sollers—Resurfacing		1,558.80			1,558.80
		Total	\$ 805.36	\$ 4,218.43			\$ 5,023.79
CO CAROLINE COUNTY							
	137	Tuckahoe River Bridge—County Share		\$ 30,750.00			\$ 30,750.00
	140-2	Greensboro—Burrsville Road—Preliminary	\$ 2,063.84	924.76	\$ 174.43		3,163.03
6/9/48	140-3	Greensboro—Burrsville Road—Construction of Roadway	23.89	933.68	3,488.83	\$ 50,537.41	54,983.81
6/30/48	140-4	Greensboro—Burrsville Road—Right-of-Way Adjustments				172.89	172.89
	179	Ridgely Cut-off—Preliminary	1,506.27	609.56			2,115.83
7/2/46	180	Federalsburg—Smithsville Road—Preliminary	2,064.05	1,426.88	318.18		3,809.11
9/26/46	180-1	Federalsburg—Smithsville Road—Construction of Roadway		52,695.17	26,632.73	3,224.19	82,552.09
3/12/47	180-2	Bridge over Sullivan Branch on Federalsburg—Smithsville Road—Construction		7,298.90	2,194.72		9,493.62
	185	Crouse's Mill Bridge—Preliminary	56.86	272.66			329.52
	185-1	Crouse's Mill Bridge—Construction		6,495.92			6,495.92
	186	Marydell Cut-off—Preliminary	235.59				235.59
	190	Hunting Creek Bridge—Preliminary		490.44	163.43		653.87
	191	Back Landing Bridge—Preliminary		300.84			300.84
		Total	\$ 5,950.50	\$102,198.81	\$ 32,972.32	\$ 53,934.49	\$ 195,056.12

ITALICS INDICATE RED FIGURES.

COUNTY CONSTRUCTION FUNDS**STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED JUNE 30, 1947 AND 1948**

DATE AUTHORIZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPENDITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS JUNE 30, 1948	TOTAL
			PRIOR TO JULY 1, 1946 (On work incomplete at that date)	FISCAL YEAR 1947	FISCAL YEAR 1948		
	CL	CARROLL COUNTY					
	224-1	Washington Road south of Fenby—Surfacing			\$ 107.00		\$ 107.00
	225-1	Mt. Airy—Taylorsville Road	\$ 714.46				714.46
	262	Beach School House Road—Preliminary	13.77				13.77
	263	Humbert School House Road—Preliminary	29.36				29.36
	264	Water Tank Road—Manchester to Pennsylvania Line—Preliminary	38.81				38.81
	265	East View—Bird Hill Road—Preliminary	51.42				51.42
	277	Daniel—Winfield Road—Preliminary	670.78				670.78
	278	Coopersville—Trevanion Road—Preliminary	2,266.76	\$ 474.82	1,199.37		3,940.95
8/ 6/47	278-1	Coopersville—Trevanion Road—Construction of Roadway		864.20	56,168.10	\$ 14,002.43	71,034.73
	279	Bachman Mills—Melrose Road—Preliminary	3,060.59	3,917.10	336.93		7,314.62
9/ 6/46	279-1	Bachman Mills—Melrose Road—Construction of Roadway		58,225.93	48,337.71	1,321.47	107,885.11
9/16/47	279-2	Restore Spring on Property of C. E. Bachman			171.22		171.22
	280	Day to Mt. Airy Road—Preliminary	1,033.19	113.71	674.97		1,821.87
	281	Washington Road near Fenby—Preliminary	2,011.49	2,738.71	219.35		4,969.55
	281-1	Washington Road near Fenby—Construction of Roadway		380.49	72.76		453.25
	282	Baust Church Road—Preliminary	1,279.59	1,559.97	6.90		2,846.46
9/11/46	282-1	Baust Church Road—Construction of roadway		22,555.50	44,825.73	1,205.79	68,587.02
	283	Washington Road—south from Barrett—Preliminary	1,806.96	769.39	89.90		2,666.25
3/29/48	283-1	Washington Road—south from Barrett—Construction of roadway		182.55	16,930.93	16,681.32	33,794.80
	284	Uniontown—Mt. Zion Road—Preliminary	2,031.67	400.16			2,431.83
	288	Hampstead—Mexico Road—Preliminary		3,510.23			3,510.23
10/16/46	288-1	Hampstead—Mexico Road—Construction of roadway		70,888.22	89,633.66	3,470.16	163,992.04
	289-1	Bridge over Roop Branch south of Uniontown—Reconstruction		.96	.96		
	297-1	Hampstead—Mexico Road—1.929 Miles of Roadway			8.18		8.18
		Total	\$ 15,008.85	\$166,581.94	\$ 258,781.75	\$ 36,681.17	\$ 477,053.71
	CE	CECIL COUNTY					
	227	Cherry Hills—Elk Mills Road—Preliminary	\$ 5,011.98	\$ 112.25			\$ 5,124.23
7/ 8/47	227-1	Cherry Hills—Elk Mills Road—Construction of Roadway	1,818.79	3,079.55	\$ 331.64		5,229.98
	229	Childs—Pleasant Hill Road—Preliminary	3,566.21	2,044.67	528.77		6,139.65
6/ 6/47	229-1	Childs—Pleasant Hill Road—Construction of Roadway	622.85	13,923.19	38,105.15	\$ 97,190.16	149,841.35
8/ 7/46	248-1	Extend Route No. 286 to Delaware Line—Construction of roadway		10,953.41			10,953.41
	277-1	Locust Point Road—Additional Costs	6.67				6.67
	283	Elk Mills—Delaware Line Road—Preliminary	2,975.45	1,023.52	104.95		4,103.92
7/ 8/47	283-1	Elk Mills—Delaware Line Road—Construction of roadway		8.65		1,091.35	1,100.00
	289	Elk Mills Creek Bridge—Preliminary		2,610.12	225.36		2,835.48
10/24/46	289-1	Elk Mills Creek Bridge—Construction		10,667.18	35,534.14		46,201.32
	291	Maryland Route No. 269 at Colora Road—Preliminary		4,201.79	149.80		4,351.59
7/ 8/47	291-1	Maryland Route No. 269 at Colora Road—Construction of roadway		1,942.66	2,952.36	49.98	4,945.00
		Total	\$ 14,001.95	\$ 50,566.99	\$ 77,932.17	\$ 98,331.49	\$ 240,832.60

ITALICS INDICATE RED FIGURES.

EXHIBIT L—Continued

COUNTY CONSTRUCTION FUNDS

STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED JUNE 30, 1947 AND 1948

DATE AUTHORIZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPENDITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS JUNE 30, 1948	TOTAL
			PRIOR TO JULY 1, 1946 (On work incomplete at that date)	FISCAL YEAR 1947	FISCAL YEAR 1948		
	CH	CHARLES COUNTY					
	249	Chicamuxen—Riverside Road—Preliminary		\$ 4,210.23	\$ 21.18		\$ 4,231.41
5/ 1/47	249-1	Chicamuxen—Riverside Road—Construction of Roadway		7,231.69	96,142.14	\$ 112,289.52	215,663.35
		Total		\$ 11,441.92	\$ 96,163.32	\$ 112,289.52	\$ 219,894.76
	D	DORCHESTER COUNTY					
	164	Jacktown—Bucktown Road—Preliminary	\$ 5,713.69	\$ 4,468.27			\$ 1,245.42
9/26/46	164-1	Jacktown—Bucktown Road—Construction of Roadway		14,337.63	\$ 89,012.90	\$ 46,182.68	149,533.21
	164-2	Jacktown—Bucktown Road—Property Adjustment, Pennsylvania Railroad Company			677.56		677.56
	189	Transquaking River Bridge—Preliminary	491.29	175.96			667.25
8/30/46	189-1	Transquaking River Bridge—Construction		19,972.30	2,027.82		22,000.12
	195	Indiantown Road, Brookview toward Vienna—Preliminary	1,287.30	2,139.92	312.08		3,739.30
	195-1	Indiantown Road, Vienna toward Brookview—Preliminary		640.24	77.05		717.29
7/15/47	195-2	Indiantown Road—Construction of Roadway		1,519.19	47,776.35	8,329.31	57,624.85
6/16/48	195-4	Vienna—Brookview Highway—Right-of-Way Improvements				862.01	862.01
	196	Steels' Neck Road—Preliminary		2,051.24	38.83		2,090.07
5/26/47	196-1	Steels' Neck Road—Construction of Roadway		12,326.59	20,009.92	3,467.25	35,803.76
	198	Hunting Creek Bridge between Chop-tank and Cabin Creek—Preliminary			86.63		86.63
	199	Back Landing Bridge—Preliminary		330.13			330.13
		Total	\$ 7,492.28	\$49,024.93	\$ 160,019.14	\$ 58,841.25	\$ 275,377.60
	F	FREDERICK COUNTY					
1/ 3/47	438	Gas House Pike—Construction of Roadway		\$ 15,002.24	\$ 4,500.00		\$ 19,502.24
	439	New Design Road—Construction of Roadway		13.01	4,395.34		4,408.35
	440	Manor Woods Road—Construction of Roadway		11.42	4,629.75		4,641.17
	441	Johnsville—New Midway Road—Construction of Roadway			16,400.00		16,400.00
1/ 3/47	442	Daysville Road—Construction of Roadway		10,000.00	1,152.85		11,152.85
1/ 3/47	443	Souder Road—Construction of Roadway		13,001.19	1,653.83		14,655.02
1/ 3/47	444	Greenfield Road—Construction of Roadway		12,001.20	307.23		11,693.97
	446	Rockridge Road—Construction of Roadway			4,684.71		4,684.71
		Total		\$ 50,029.06	\$ 37,109.25		\$ 87,138.31
	G	GARRETT COUNTY					
	121-1	Swanton—Bittinger Road—Additional Costs	\$ 30.92				\$ 30.92
7/15/47	121-3	Swanton—Bittinger Road—Surfacing	482.62	\$ 105,250.99	\$ 11,261.64		116,995.25
	189-2	Swanton—Bittinger Road—Construction of Roadway		972.36	212.56		1,184.92
	195	Loch Lynn—Gorman Road—Preliminary			1,732.81		1,732.81
5/13/48	195-1	Loch Lynn—Gorman Road—Construction of Roadway		874.89	10,291.58	301,787.03	312,953.50
	233	Oakland—Grantville Road—Construction of Roadway		30.85			30.85
		Total	\$ 2,391.64	\$ 117,487.94	\$ 313,048.67	\$ 313,048.67	\$ 432,928.25

ITALICS INDICATE RED FIGURES.

COUNTY CONSTRUCTION FUNDS**STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED JUNE 30, 1947 AND 1948**

DATE AUTHORIZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPENDITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS JUNE 30, 1948	TOTAL
			PRIOR TO JULY 1, 1946 (On work incomplete at that date)	FISCAL YEAR 1947	FISCAL YEAR 1948		
	II	HARFORD COUNTY					
	257	Castleton Road—Additional Costs			\$ 109.66		\$ 109.66
		Total			\$ 109.66		\$ 109.66
	III	HOWARD COUNTY					
	170	Tiber Run Bridge, Ellicott City—Preliminary	\$ 719.29	\$ 6,510.50			\$ 7,229.79
	223	Old Whiskey Bottom Road—Preliminary	2,993.76	328.19	\$ 568.68		3,890.63
	223-1	Old Whiskey Bottom Road—Construction of Roadway		525.21	74.18		599.39
	224	Halls' Shop Road—Preliminary	1,560.34	295.17	245.57		2,101.08
		Total	\$ 5,273.39	\$ 7,659.07	\$ 888.43		\$ 13,820.89
	K	KENT COUNTY					
	131	Galena—Sassafras Road—Preliminary	\$ 6,989.34	\$ 3,602.37	\$ 2,254.17		\$ 12,845.88
8/14/46	131-1	Galena—Sassafras Road—Construction of Roadway, 1st Section		8,347.68	30,985.56	\$ 3,059.31	42,392.55
5/21/47	131-2	Galena—Sassafras Road—Construction of Roadway, 2nd Section		5,824.81	100,494.77	7,673.52	113,993.10
6/16/48	131-3	Galena—Sassafras Road—To Stabilize Roadway			382.21	40,941.89	41,324.10
6/7/48	131-4	Galena—Sassafras Road—Reshape 1.2 miles of slope area			13.91	3,735.13	3,749.04
8/7/46	133-2	Millington—Crumpton Road—Construction of Roadway		12,053.47			12,053.47
		Total	\$ 6,989.34	\$ 29,828.33	\$ 134,130.62	\$ 55,409.85	\$ 226,358.14
	M	MONTGOMERY COUNTY					
	398	River Road—Construction of Roadway			\$ 2,782.65		\$ 2,782.65
		Total			\$ 2,782.65		\$ 2,782.65
	P	PRINCE GEORGE'S COUNTY					
	419-1	Beltsville—Old Riggs Mills Road—Additional Costs		\$ 75.50			\$ 75.50
	435-1	Marlboro—Glendale Road, Kolbs Corner toward Defense Highway—Right-of-Way Costs			\$ 107.80		107.80
5/23/42	484X	Aquasco—Charles County Line Road—Clearing	\$ 1,520.74	438.67			1,959.41
5/23/42	484X1	Aquasco—Charles County Line Road—Grading and Draining		3,470.55			3,470.55
5/23/42	484X2	Aquasco—Charles County Line Road—Gravel surfacing		1,724.20			1,724.20
4/17/47	558	Gunpowder Road—Construction of Roadway		513.80	33,702.67	\$ 7,895.74	42,112.21
4/17/47	559	Colesville Road—Construction of Roadway		1,751.12	19,557.14	2,695.74	24,004.00
9/12/47	560	Woodyard Road—Construction of Roadway		422.13	18,221.82	29,204.88	47,848.83
4/17/47	561	Rosaryville Road—Construction of Roadway		1,030.19	47,032.66	4,633.13	52,695.98
12/16/47	562	Wheeler Road—Construction of Roadway		394.30	7,714.27	5,279.81	13,388.38
4/10/47	570	Greenbriar Road—Construction of Roadway		4,134.79	1,761.12		5,895.91
1/22/48	571	Dr. Fox's Road—Construction of Roadway		28.66	8,590.49	14,544.42	23,163.57
10/23/47	572	Hopkins Farm Road—Construction of Roadway		31.54	10,337.89	3,854.92	14,224.35
11/14/47	573	Telegraph Road—Construction of Roadway			4,448.41	25,071.94	29,520.35
	577	Swan Road—Additional Costs			81.79		81.79
10/8/47	603	Queen's Chapel Road—Construction of Roadway			44,045.26	32,748.94	76,794.20
		Total	\$ 1,520.74	\$ 14,015.45	\$ 195,601.32	\$ 125,929.52	\$ 337,067.03

COUNTY CONSTRUCTION FUNDS

STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED JUNE 30, 1947 AND 1948

DATE AUTHORIZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPENDITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS JUNE 30, 1948	TOTAL
			PRIOR TO JULY 1, 1946 (On work incomplete at that date)	FISCAL YEAR 1947	FISCAL YEAR 1948		
	Q	QUEEN ANNE'S COUNTY					
	108	Centreville—Wye Mills Road toward Star—Preliminary		\$ 5,567.48	\$ 584.15		\$ 6,151.63
	108-1	Centreville—Wye Mills Road toward Star—Construction of Roadway			923.67		923.67
	113-1	Centreville—Ruthsburg—Right-of-Way Costs			19.70		19.70
8 /27/46	113-2	Centreville—Ruthsburg Road—Construction of Roadway		7,743.74	49,720.47	\$ 7,139.67	64,603.88
	131-1	Barclay—Templeville Road—Additional Costs		53.00			53.00
	138	Centreville—Ruthsburg Road—Preliminary	\$ 680.17				680.17
	138-1	Centreville—Ruthsburg Road—Construction of Roadway		13.00			13.00
	154-1	Millington—Crumpton Road—Construction of Roadway	507.31		13.33		520.64
	155	McGinnis Corner toward Chestertown—Preliminary		522.68			522.68
8/ 7/46	155-1	McGinnis Corner toward Chestertown—Construction of Roadway		29,048.43			29,048.43
9/18/46	156-3	Barclay toward Churchill—Construction of Roadway		718.75	12,373.84		13,092.59
8/23/46	175-1	Ingleside toward Roe—Construction of Roadway		7,087.38			7,087.38
	202	Island Creek Bridge—Preliminary	335.80	498.87	51.46		886.13
11/18/46	202-1	Island Creek Bridge—Construction		5,082.24	31,505.40		36,587.64
	203	Crouse's Mill Bridge—Preliminary	310.64	18.88			329.52
9/18/46	203-1	Crouse's Mill Bridge—Construction		6,495.93			6,495.93
		Total	\$ 1,833.92	\$ 62,850.38	\$ 95,192.02	\$ 7,139.67	\$ 167,015.99
	SM	ST. MARY'S COUNTY					
10/ 3/45	154-1	Scotland Beach Road—Construction of Roadway	\$ 4,196.31	\$ 2,053.01			\$ 6,249.32
		Total	\$ 4,196.31	\$ 2,053.01			\$ 6,249.32
	S	SOMERSET COUNTY					
	151	Revell's Neck Road—Preliminary	\$ 1,205.87	\$ 718.99	\$ - 131.16		\$ 2,056.02
8/30/46	151-1	Revell's Neck Road—Construction of Roadway		11,428.51	16,547.57	\$ 2,733.95	30,710.03
	152	East Princess Anne Road—Preliminary	1,433.73	397.38	621.79		2,452.90
6/ 2/47	152-1	East Princess Anne Road—Construction of Roadway		1,982.88	24,640.85	3,179.99	29,803.72
5/17/48	152-2	Reimburse Choptank Electric Corporation				225.00	225.00
	155	Jenkins Creek Road—Preliminary	975.44	554.14	15.98		1,545.56
6/24/47	155-1	Jenkins Creek Road—Construction of Roadway		219.40	21,517.66	3,119.85	24,856.91
	158	Kings Creek—Dublin Road—Preliminary		1,686.72	138.33		1,825.05
6/24/47	158-1	Kings Creek—Dublin Road—Construction of Roadway		306.74	8,409.00	20,421.65	29,137.39
6/ 7/48	158-2	Reimburse Western Union on Project No. S-158-1			1,191.09		1,191.09
	159	Road Through Fairmount—Preliminary		2,496.17	33.18		2,529.35
10/23/47	159-1	Westover—Upper Fairmount Road—Construction of Roadway			456.95	28,090.47	28,547.42
		Total	\$ 3,615.04	\$ 19,790.93	\$ 73,703.56	\$ 57,770.91	\$ 154,880.44

COUNTY CONSTRUCTION FUNDS

STATEMENT OF PROJECT EXPENDITURES FOR THE FISCAL YEARS ENDED JUNE 30, 1947 AND 1948

DATE AUTHORIZED	PROJECT NUMBER	DESCRIPTION	DISBURSEMENTS—NET			EXPENDITURES AUTHORIZED TO COMPLETE PROJECTS IN PROGRESS JUNE 30, 1948	TOTAL
			PRIOR TO JULY 1, 1946 (On work incomplete at that date)	FISCAL YEAR 1947	FISCAL YEAR 1948		
		TALBOT COUNTY					
	T 86	Tuckahoe River Bridge—County Share		\$ 30,750.00			\$ 30,750.00
	112	Bridge over Miles River—Preliminary		539.73	\$ 6.74		546.47
10/16/46	112-1	Bridge over Miles River—Construction		13,905.14			13,905.14
	116	Airport Road, Route No. 213, to Easton Airport—Preliminary			656.61		656.61
	116-1	Airport Road, Route No. 213, to Easton Airport—Construction of Roadway			276.53		276.53
	117	Bridge over King's Creek—Preliminary			1,398.71		1,398.71
5/27/48	117-1	Bridge over King's Creek—Construction			322.08	\$ 25,133.12	25,455.20
		Total		\$ 45,194.87	\$ 2,660.67	\$ 25,133.12	\$ 72,988.66
		WASHINGTON COUNTY					
	183	Millstone—Pennsylvania Line Road—Preliminary	\$ 372.52	\$ 636.65	\$ 3.67		\$ 1,012.84
1/30/47	183-3	Millstone—Pennsylvania Line Road—Construction of Roadway		1,379.87	66,348.07	\$ 7,016.39	74,744.33
	329	Funkstown—Chewsville Road—Preliminary		3,828.77	7.70		3,836.47
	329-1	Funkstown—Chewsville Road—Construction of Roadway			934.68		934.68
	369	Roxbury Road—Preliminary	1,893.62	1,005.43			2,899.05
	369-1	Roxbury Road—Construction of Roadway		963.96			963.96
	370	Mount Lena—Bagtown Road—Preliminary	480.86				480.86
	377	Smithsville—Pondsville Road—Preliminary		2,474.36			2,474.36
		Total	\$ 2,747.00	\$ 10,289.04	\$ 67,294.12	\$ 7,016.39	\$ 87,346.55
		WICOMICO COUNTY					
8/7/46	187-1	Mount Harman toward Snow Hill and Salisbury Road		\$ 22,078.61			\$ 22,078.61
	229	Shad Point Bridge and Dam over Tony Tank Creek—Preliminary	\$ 1,379.81	1,339.50	\$ 38.30		2,757.61
8/20/47	229-1	Shad Point Bridge and Dam over Tony Tank Creek—Construction of Bridge and Dam			41,314.26	\$ 13,478.25	54,792.51
	232	Maryland Route No. 352, Capitola—Cox's Corner—Preliminary	1,126.21	1,737.29	67.12		2,930.62
6/24/47	232-1	North of Maryland Route No. 352, Capitola—Cox's Corner—Construction of Roadway		4,149.54	61,549.13	14,546.57	80,245.24
6/24/47	232-2	West of Maryland Route No. 352, Capitola—Cox's Corner—Construction of Roadway		2,556.48	41,116.00	8,687.09	52,359.57
		Total	\$ 2,506.02	\$ 31,861.42	\$ 144,084.81	\$ 36,711.91	\$ 215,164.16
		WORCESTER COUNTY					
	279	Bishopsville—Isle of Wight Road—Preliminary	\$ 1,694.42	\$ 1,384.88	\$ 951.38		\$ 4,030.68
6/6/47	279-1	Bishopsville—Isle of Wight Road—Construction of Roadway		3,123.47	50,628.38	\$ 6,408.63	60,160.48
	283	Route No. 12, Welbourne—Preliminary	1,163.94	2,928.85	548.39		4,641.18
4/23/47	283-1	Route No. 12, Welbourne—Construction of Roadway		16,139.47	24,230.43	3,258.92	43,628.82
	285	Route No. 589, Gray's Corner—Preliminary		3,607.51	1,496.53		5,104.04
	285-1	Route No. 589, Gray's Corner—Construction of Roadway			4,068.00		4,068.00
		Total	\$ 2,858.36	\$ 27,184.18	\$ 81,923.11	\$ 9,667.55	\$ 121,633.20
		TOTAL	\$110,668.15	\$972,171.54	\$1,821,815.24	\$1,441,344.71	\$4,345,999.64

NOTE—The expenditures for 1948 of \$1,821,815.24 shown on this statement represent cash disbursements of \$1,822,663.56 less cash refunds of \$848.32.

EXHIBIT M

STATEMENT OF ADMINISTRATIVE AND GENERAL EXPENSES FOR THE FISCAL YEAR ENDED JUNE 30, 1948

	TOTAL	SALARIES	PAY FOR VACATION, SICK LEAVE, AND HOLIDAYS*	TRAVEL AND GENERAL EXPENSES	OFFICE SUPPLIES, PRINTING, POSTAGE, AND ADVERTISING	INSURANCE	PASSENGER CAR OPERATING COSTS	PENSIONS	OTHER COSTS
GENERAL DIVISIONS:									
Commission—Administration	\$ 171,441.70	\$ 51,780.56		\$ 2,988.25	\$ 5,320.65	\$71,356.33	\$ 1,860.22		\$ 38,135.69
Personnel	169,596.63	9,028.04		141.25	510.68	15,688.24		\$140,880.11	3,348.31
Legal	18,183.84	17,024.88		418.78	348.96		391.22		
Accounting	157,795.09	124,597.02		10,666.14	17,617.81		233.31		4,680.81
Head Office Building Service	28,176.09	13,235.63		8,654.47					6,285.99
Engineering	85,233.31	60,168.18		10,148.24	6,624.29		4,195.04		4,097.56
Traffic	93,238.83	69,781.90		10,831.59	5,072.29		4,337.48		3,215.57
Materials	62,120.62	46,875.24		7,671.80	867.46		4,082.42		2,623.70
Right-of-Way	43,108.22	35,409.51		1,052.27	3,023.27		3,614.22		8.95
Construction—Road Design	77,634.75	47,909.04		3,195.06	21,127.12		5,175.04		228.49
Construction—Bridge Design	39,425.53	27,897.39		2,011.69	4,189.96		1,093.97		4,232.52
Construction—Field. Sign Shop and Repair Shop	50,267.17	47,171.09		1,251.24	843.93		1,000.91		
	60,476.81	43,525.01		10,157.49	1,169.81		955.73		4,668.77
TOTAL	\$1,056,698.59	\$594,403.49		\$69,188.27	\$66,716.23	\$87,044.57	\$26,939.56	\$140,880.11	\$ 71,526.36
DISTRICT DIVISIONS:									
District No. 1	\$ 74,564.50	\$ 41,586.60	\$ 13,617.98	\$ 1,961.77	\$ 3,897.95		\$ 3,812.60		\$ 9,687.60
District No. 2	118,105.84	53,064.62	35,812.99	1,288.19	4,753.90		5,332.16		17,853.98
District No. 3	118,907.77	54,245.67	38,161.02	2,004.70	5,139.44		4,139.29		15,217.65
District No. 4	85,349.30	37,117.76	32,647.46	2,083.29	3,208.11		2,256.52		8,036.16
District No. 5	105,808.94	37,338.61	54,086.65	1,715.08	2,989.56		3,816.97		5,862.07
District No. 6	118,976.73	57,515.95	38,794.23	954.84	5,660.88		3,284.85		12,765.98
TOTAL	\$ 621,713.08	\$280,869.21	\$213,120.33	\$10,007.87	\$25,649.84		\$22,642.39		\$ 69,423.44
TOTAL	\$1,678,411.67	\$875,272.70	\$213,120.33	\$79,196.14	\$92,366.07	\$87,044.57	\$49,581.95	\$140,880.11	\$140,949.80

* Represents payments to maintenance salaried and per diem employees.

NOTE—The expenses reflected in this statement were absorbed in construction and maintenance costs relating to the road systems of both State and County.

STATEMENT OF ADMINISTRATIVE AND GENERAL EXPENSES FOR THE FISCAL YEAR ENDED JUNE 30, 1947

	TOTAL	SALARIES	PAY FOR VACATION, SICK LEAVE, AND HOLIDAYS*	TRAVEL AND GENERAL EXPENSES	OFFICE SUPPLIES, PRINTING, POSTAGE, AND ADVERTISING	INSURANCE	PASSENGER CAR OPERATING COSTS	PENSIONS	OTHER COSTS
GENERAL DIVISIONS:									
Commission--Administration	\$ 88,287.79	\$ 46,450.74		\$ 1,780.47	\$12,379.29	\$11,241.92	\$ 1,704.59		\$ 14,730.78
Personnel	133,137.91	7,876.36		562.34		19,576.78		\$102,861.93	2,260.50
Legal	13,465.60	12,371.48		542.44	100.52		451.16		
Accounting	158,296.97	123,362.38		9,212.20	21,925.29		436.40		3,360.70
Head Office Building									
Service	27,758.13	12,543.49		7,316.99					7,897.65
Engineering	61,462.60	46,835.60		5,106.02	3,112.15		3,231.78		3,177.05
Traffic	62,086.42	47,816.69		7,205.86	3,171.73		3,720.20		171.94
Materials	58,625.28	46,198.51		4,884.81	507.57		4,346.33		2,688.06
Right-of-Way	34,408.91	29,623.70		1,191.73	1,053.52		2,528.16		11.80
Construction--Road									
Design	57,326.91	45,955.24		3,279.28	2,829.34		5,075.20		187.85
Construction--Bridge									
Design	25,975.48	20,569.60		1,101.16	2,985.36		1,117.04		202.32
Construction--Field	52,620.95	49,690.61		1,116.83	111.22		1,695.70		6.59
Sign Shop and Repair Shop	52,937.27	37,218.25		11,151.00	328.02		1,277.16		2,962.84
TOTAL	\$ 826,390.22	\$526,512.65		\$54,451.13	\$48,504.01	\$30,818.70	\$25,583.72	\$102,861.93	\$ 37,658.08
DISTRICT DIVISIONS:									
District No. 1	\$ 74,776.60	\$ 49,480.55	\$ 10,808.03	\$ 1,624.02	\$ 2,426.66		\$ 4,501.30		\$ 5,936.04
District No. 2	110,608.19	61,570.81	26,912.63	1,690.09	3,016.26		6,013.11		11,405.29
District No. 3	114,564.01	53,965.39	26,311.35	1,943.91	2,890.10		4,023.19		25,430.07
District No. 4	80,829.48	40,560.26	27,773.00	1,733.67	2,205.38		2,864.40		5,692.77
District No. 5	98,209.17	44,908.58	34,075.79	1,583.72	3,002.78		4,288.62		10,349.68
District No. 6	107,808.59	58,406.55	29,785.57	1,168.73	1,534.48		3,526.08		13,387.18
TOTAL	\$ 586,796.04	\$308,892.14	\$155,666.37	\$ 9,744.14	\$15,075.66		\$25,216.70		\$ 72,201.03
TOTAL	\$1,413,186.26	\$835,404.79	\$155,666.37	\$64,195.27	\$63,579.67	\$30,818.70	\$50,800.42	\$102,861.93	\$109,859.11

* Represents payments to maintenance salaried and per diem employees.

STATEMENT OF OPERATING EQUIPMENT EXPENSES, BY DISTRICTS, FOR THE FISCAL YEAR ENDED JUNE 30, 1948

	TOTAL	DISTRICT					
		No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
SALARIES	\$316,570.77	\$ 31,278.04	\$ 65,694.88	\$ 62,846.87	\$ 47,977.29	\$ 76,187.51	\$ 32,586.18
TRAVEL AND GENERAL EXPENSES	3,123.11	2,355.09	198.93	109.43	283.12	153.50	23.04
LIGHT, HEAT, WATER, ETC...	28,947.88	2,763.80	5,587.57	8,278.06	4,619.76	4,770.34	2,928.35
RENT	3,085.36	1,255.30	1,308.00		10.00	14.06	498.00
GASOLINE	195,283.12	25,090.05	43,588.03	29,213.42	23,048.99	44,069.85	30,272.78
KEROSENE	8,077.12	1,244.97	2,039.14	1,925.43	1,118.53	723.17	1,025.88
LUBRICATING OIL	12,381.94	3,011.60	3,416.48	1,640.79	779.24	2,013.81	1,520.02
PARTS	189,941.76	30,484.48	52,678.20	25,926.40	21,748.00	30,917.24	28,187.44
REPAIRS	27,814.68	1,668.88	4,814.48	5,911.01	6,778.19	5,691.88	2,950.24
TIRES	70,314.93	10,168.83	16,892.71	12,520.68	7,627.04	15,824.98	7,280.69
SUPPLIES	6,472.62	661.12	1,808.59	1,061.34	1,310.49	700.14	930.94
DIESEL OIL	17,841.21	6,073.51	4,667.01	1,164.66	531.23	3,623.16	1,781.64
BLADES, ETC.—GRADERS AND SNOWPLOWS	5,758.23	350.72	1,948.45	1,008.88	253.11	1,952.00	245.07
MISCELLANEOUS EXPENSES	41,759.98	6,229.62	11,471.30	5,897.24	4,637.22	7,143.40	6,381.20
TOTAL	\$927,372.71	\$122,636.01	\$216,113.77	\$157,504.21	\$120,722.21	\$193,785.04	\$116,611.47

NOTE—The expenses reflected in this statement were distributed ratably to construction and maintenance costs relating to the road systems of both State and County.

STATEMENT OF OPERATING EQUIPMENT EXPENSES, BY DISTRICTS, FOR THE FISCAL YEAR ENDED JUNE 30, 1947

	TOTAL	DISTRICT					
		No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
SALARIES.....	\$313,915.66	\$ 33,140.36	\$ 66,583.21	\$ 62,327.04	\$ 46,066.26	\$ 74,282.15	\$31,516.64
TRAVEL AND GENERAL EXPENSES.....	969.53	110.19	297.57	162.82	232.95	166.00	.....
LIGHT, HEAT, WATER, ETC....	28,006.21	4,440.87	4,062.18	7,166.16	3,683.89	5,291.24	3,361.87
RENT.....	2,575.55	610.00	1,408.00	24.00	35.55	24.00	474.00
GASOLINE.....	167,416.00	25,351.08	35,573.75	23,958.25	18,961.14	39,707.05	23,864.73
KEROSENE.....	4,879.02	539.59	954.79	1,205.12	709.93	634.15	835.44
LUBRICATING OIL.....	13,131.38	3,297.63	3,170.69	1,910.39	755.52	2,605.22	1,391.93
PARTS.....	174,709.05	32,861.39	44,243.08	26,496.33	20,690.45	28,934.92	21,482.88
REPAIRS.....	26,433.06	2,051.70	3,112.68	8,752.18	5,315.39	5,680.46	1,520.65
TIRES.....	81,951.61	12,261.99	20,526.99	11,129.59	8,188.51	22,364.64	7,479.89
SUPPLIES.....	5,104.41	1,005.85	988.14	712.41	958.22	731.53	708.26
DIESEL OIL.....	14,195.82	5,246.31	3,265.51	1,090.26	510.47	3,278.47	804.80
BLADES, ETC.—GRADERS AND SNOWPLOWS.....	13,633.04	1,991.95	8,093.11	910.22	425.86	1,864.05	347.85
MISCELLANEOUS EXPENSES.....	34,507.01	6,659.91	7,848.69	4,818.62	4,594.71	6,207.96	4,377.12
TOTAL.....	\$881,427.35	\$129,568.82	\$200,128.39	\$150,663.39	\$111,128.85	\$191,771.84	\$98,166.06

NOTE—The expenses reflected in this statement were distributed ratably to construction and maintenance costs relating to the road systems of both State and County.

SUSQUEHANNA RIVER AND POTOMAC RIVER TOLL BRIDGES FUND
BALANCE SHEET, SEPTEMBER 30, 1948 AND 1947

ASSETS	SEPTEMBER 30,		LIABILITIES	SEPTEMBER 30,	
	1948	1947		1948	1947
CASH:			TOLL TICKETS SOLD FOR FUTURE USE.....	\$ 11,145.34	\$ 45,412.75
Repairs and Insurance Fund....	\$ 217,155.01	\$ 211,179.41	GUARANTY DEPOSIT.....	\$ 1,000.00	\$ 1,000.00
Operation Fund.....	<i>3,535.70</i>	16,352.62	ACCOUNTS PAYABLE—CONSTRUCTION FUND.....		\$ 5,475.00
Sinking Fund:			SINKING FUND.....	\$ 1,081,428.44	\$ 969,314.43
Tolls earned.....	1,070,026.34	960,763.43	BONDED DEBT—BRIDGE REVENUE REFUNDING BONDS OF 1941—Schedule 1.....	\$ 1,384,000.00	\$ 2,596,000.00
Toll tickets sold for future use.....	10,620.54	44,443.75	RESERVES:		
Petty cash.....	7,000.00	7,000.00	Repairs and Insurance Fund..	\$ 217,155.01	\$ 211,179.41
Guaranty deposit—credit user..	1,000.00	1,000.00	Operation Fund.....	<i>3,535.70</i>	16,352.62
Construction Fund.....	188,968.05	189,042.05	Construction Fund.....	188,968.05	183,567.05
Total cash.....	\$ 1,491,234.24	\$ 1,429,781.26	Total reserves.....	\$ 402,587.36	\$ 411,099.08
ACCOUNTS RECEIVABLE.....	\$ 4,926.90	\$ 2,520.00	BOOK VALUE OF STATE'S EQUITY IN FIXED ASSETS.....	\$ 8,758,221.23	\$ 7,551,622.23
FIXED ASSETS — SUSQUEHANNA RIVER TOLL BRIDGE AND POTOMAC RIVER TOLL BRIDGE (including bond discount on sale of Series A Bridge Revenue 3 3/4% Bonds).....	\$10,142,221.23	\$10,147,622.23	FUNDS PROVIDED BY STATE ROADS COMMISSION OF MARYLAND (Contra).....	\$ 847,020.40	\$ 664,181.30
NET AMOUNT ADVANCED BY STATE ROADS COMMISSION FOR ACCOUNT OF MARYLAND'S PRIMARY BRIDGE PROGRAM (Contra).....	\$ 847,020.40	\$ 664,181.30	TOTAL.....	\$12,485,402.77	\$12,244,104.79
TOTAL.....	\$12,485,402.77	\$12,244,104.79			

ITALICS INDICATE RED FIGURES.

NOTE—Under the terms of an Indenture dated June 1, 1941, by and between the State Roads Commission of Maryland and the Safe Deposit & Trust Company of Baltimore, as Trustee, the State Roads Commission of Maryland issued Bridge Revenue Bonds of 1941 in the principal amount of \$6,000,000.00. This balance sheet reflects the status of the funds under said Indenture.

SUSQUEHANNA RIVER AND POTOMAC RIVER TOLL BRIDGES FUND
BONDED DEBT—BRIDGE REVENUE REFUNDING BONDS OF 1941, SEPTEMBER 30,
1948 AND 1947

MATURITY DATE	INTEREST RATE	PAR VALUE OF OUTSTANDING BONDS SEPTEMBER 30,	
		1948	1947
December 1, 1947	1 ³ / ₄ %		\$ 175,000.00
December 1, 1948	1 ³ / ₄ %	\$ 200,000.00	200,000.00
December 1, 1949	1 ³ / ₄ %	200,000.00	200,000.00
December 1, 1950	1 ³ / ₄ %	200,000.00	200,000.00
December 1, 1951	2 ¹ / ₄ %	200,000.00	200,000.00
December 1, 1952	2 ¹ / ₄ %	225,000.00	225,000.00
December 1, 1953	2 ¹ / ₄ %	225,000.00	225,000.00
December 1, 1954	2 ¹ / ₄ %	134,000.00	225,000.00
December 1, 1955	2 ¹ / ₄ %		225,000.00
December 1, 1956	2 ¹ / ₄ %		250,000.00
December 1, 1957	2 ¹ / ₄ %		300,000.00
December 1, 1958	2 ¹ / ₄ %		171,000.00
TOTAL		\$1,384,000.00	\$2,596,000.00

SUSQUEHANNA RIVER AND POTOMAC RIVER TOLL BRIDGES FUND
NET AMOUNT ADVANCED BY STATE ROADS COMMISSION FOR ACCOUNT OF MARY-
LAND'S PRIMARY BRIDGE PROGRAM—SEPTEMBER 30, 1948 AND 1947

Article IV, Section 13, of the Trust Indenture of October 1, 1938, and Article IV, Section 11, of the Trust Indenture of June 1, 1941, provide:

“After provisions shall be made for the payment of all Bonds secured hereby, and the interest thereon, and all expenses and charges herein required to be paid, the Trustee shall pay any balance in the Sinking Fund and any balance in any other Fund, to the Commission. The amounts so paid to the Commission shall be deemed to constitute a partial reimbursement of the amounts theretofore expended by the Commission under the provisions of this Indenture, for maintaining, repairing, and operating the Bridges. And Tolls shall thereafter be charged, if not prohibited by any Federal Law or any Law of the State, for the use of such Bridges, until the balance of the amount so expended by this Commission shall be fully reimbursed to the Commission.”

	SEPTEMBER 30,	
	1948	1947
TOTAL AMOUNT OF STATE ROADS COMMISSION FUNDS DISBURSED IN CONNECTION WITH MARYLAND'S PRIMARY BRIDGE PROGRAM	\$919,016.00	\$736,176.90
AMOUNT RECOVERED ON ACCOUNT OF FUNDS DISBURSED TO FEBRUARY 28, 1939:		
Susquehanna River Bridge Construction Fund	\$ 40,423.78	\$ 40,423.78
Potomac River Bridge Construction Fund	31,571.82	31,571.82
TOTAL	\$ 71,995.60	\$ 71,995.60
REMAINDER, REPRESENTING TOLLS TO BE LEVIED IN FUTURE PERIODS, AFTER ALL STATE OF MARYLAND BRIDGE REVENUE REFUNDING BONDS HAVE MATURED, TO PAY STATE ROADS COMMISSION THE COSTS INCURRED INCIDENT TO MARYLAND'S PRIMARY BRIDGE PROGRAM	\$847,020.40	\$664,181.30

EXHIBIT S

SUSQUEHANNA RIVER AND POTOMAC RIVER TOLL BRIDGES FUND

STATEMENT SHOWING ACCUMULATED RECEIPTS AND EXPENDITURES, AND BALANCE OF CONSTRUCTION FUNDS IN HANDS OF TRUSTEE AT SEPTEMBER 30, 1948 AND 1947

	SEPTEMBER 30,	
	1948	1947
RECEIPTS:		
Proceeds of sale of State of Maryland Bridge Revenue Bonds (Refunded).....	\$ 6,000,000.00	\$ 6,000,000.00
Less discount on sale of original issue.....	300,000.00	300,000.00
Remainder.....	\$ 5,700,000.00	\$ 5,700,000.00
Final and complete proceeds of Grant Funds made available through Works Progress Administration:		
Susquehanna River Bridge.....	1,979,219.28	1,979,219.28
Potomac River Bridge.....	2,351,970.00	2,351,970.00
Total Receipts.....	\$10,031,189.28	\$10,031,189.28
EXPENDITURES:		
Susquehanna River Bridge.....	\$ 4,464,915.35	\$ 4,464,915.35
Potomac River Bridge.....	5,377,305.88	5,377,231.88
Total Expenditures.....	\$ 9,842,221.23	\$ 9,842,147.23
BALANCE OF CONSTRUCTION FUNDS SUBJECT TO SATISFACTION OF REMAINING COSTS OF CONSTRUCTION:		
	\$ 188,968.05	\$ 189,042.05

NOTE—The receipts and expenditures shown in this statement represent the accumulated receipts and expenditures from the inception of the Construction Fund to the respective dates indicated.

EXHIBIT T

SUSQUEHANNA RIVER AND POTOMAC RIVER TOLL BRIDGES FUND

STATEMENT OF NET REVENUE AND SINKING FUND ACCOUNT FOR THE FISCAL YEARS ENDED SEPTEMBER 30, 1948 AND 1947

	FISCAL YEAR ENDED SEPTEMBER 30,	
	1948	1947
REVENUE:		
Tolls, less refunds, etc.....	\$1,496,691.76	\$1,319,966.17
Adjustment for expired tickets.....	40,000.00	.....
Transfers of funds from the State Roads Commission of Maryland:		
Credited to Operation Fund.....	10,000.00	4,000.00
Credited to Reserve Funds.....	156,685.00	42,700.00
Miscellaneous.....	1,070.90	2,073.42
Total.....	\$1,704,447.66	\$1,368,739.59
EXPENDITURES AND TRANSFERS:		
Redemption of bonds.....	\$1,212,000.00	\$1,054,000.00
Premium on bonds redeemed.....	36,100.00	35,160.00
Interest on bonds.....	47,390.00	70,500.00
Funds returned to the State Roads Commission of Maryland.....	27,480.83	.....
Fees of paying agents.....	1,015.46	1,147.00
Miscellaneous.....	1,662.40	1,677.70
Transfers:		
To Operation Fund.....	99,999.96	99,999.96
To Operation Fund No. 2.....	10,000.00	.....
To Reserve Funds.....	156,685.00	46,700.00
Total.....	\$1,592,333.65	\$1,309,184.66
NET REVENUE (Transferred to Sinking Fund Account).....	\$ 112,114.01	\$ 59,554.93
BALANCE IN SINKING FUND ACCOUNT AT BEGINNING OF YEAR.....	969,314.43	909,759.50
BALANCE IN SINKING FUND ACCOUNT AT END OF YEAR.....	\$1,081,428.44	\$ 969,314.43

CHESAPEAKE BAY FERRY SYSTEM FUND
BALANCE SHEET, MAY 31, 1948 AND 1947

ASSETS	MAY 31,		LIABILITIES	MAY 31,	
	1948	1947		1948	1947
CASH:			UNREDEEMED TICKETS, ETC.	\$ 8,746.88	\$ 7,593.64
Ferry Revenue Fund—On deposit with Trustee	\$ 616,297.22	\$ 716,503.28	CREDIT USERS GUARANTY DEPOSITS	\$ 4,700.00	\$ 4,700.00
Petty Cash Fund	7,500.00	7,500.00	FEDERAL TAX PAYABLE	\$ 2,439.51	\$ 2,060.39
Renewals and Replacements Fund	126,418.58	99,986.32	BONDED DEBT—STATE ROADS COMMISSION OF MARYLAND CHESAPEAKE BAY FERRY REVENUE BONDS OF 1941 (not an obligation of the State of Maryland; the principal and interest are payable exclusively from the Ferry Project and such part of the Gasoline Tax Fund payable to the Commission as provided by Chapter 560, Acts of 1947)—Schedule I		
Debt Service Fund:			RESERVES:		
From one-half cent gasoline tax	93,875.00	93,875.00	Renewals, replacements, etc.	\$ 126,418.58	\$ 99,986.32
From ferry revenue	900.00	7,350.00	Special repairs	15,000.00	15,000.00
Property Replacement Insurance Fund	23,147.28	23,150.28	Recovery of property damage Sinking Fund:	11,859.97	7,307.40
			One-half cent gasoline tax	93,875.00	93,875.00
Total cash	\$ 868,138.08	\$ 948,364.88	From revenue	900.00	7,350.00
INVENTORIES OF MATERIALS, TOOLS, PARTS, ETC.	\$ 15,505.10	\$ 6,787.59	Total reserves	\$ 248,053.55	\$ 223,518.72
ACCOUNTS RECEIVABLE:			BOOK VALUE OF STATE'S EQUITY IN FERRY SYSTEM	\$ 747,537.44	\$ 355,113.25
Sundry debtors, less reserve of \$3,052.78 for doubtful accounts at May 31, 1948 and 1947	\$ 9,915.03	\$ 13,897.50	CONTINGENT BOND EQUITY (Contra)	\$ 103,185.59	\$ 103,185.59
Insurance company—for property damage	11,859.97	7,307.40	SURPLUS FROM OPERATIONS—Available for future operation and maintenance	\$ 603,624.89	\$ 700,631.27
Total accounts receivable	\$ 21,775.00	\$ 21,204.90	TOTAL	\$2,158,287.86	\$2,205,802.86
FIXED ASSETS:					
Purchased from Claiborne-Annapolis Ferry Company prior to July 1, 1941, with proceeds from sale of revenue bonds, including certain properties consisting of vessels, terminals, shop and vessel equipment, piers, tools, passenger automobiles, and miscellaneous equipment, and the redemption of passenger fare tickets issued by the Company	\$1,031,974.76	\$1,032,938.37			
Purchased with revenue funds, etc.	117,709.33	93,321.53			
Total fixed assets	\$1,149,684.09	\$1,126,259.90			
FUTURE TOLL REVENUE ENCUMBERED TO RESTORE PROCEEDS OF BONDS USED IN OPERATION SINCE JUNE 1, 1941 (Contra)	\$ 103,185.59	\$ 103,185.59			
TOTAL	\$2,158,287.86	\$2,205,802.86			

NOTE—Under the terms of an Indenture dated June 1, 1941, by and between the State Roads Commission of Maryland and the Baltimore National Bank, as Trustee, the State Roads Commission of Maryland issued Chesapeake Bay Ferry Revenue $1\frac{1}{2}$ % Bonds of 1941 in the principal amount of \$1,200,000.00. This balance sheet reflects the status of the funds under said Indenture.

CHESAPEAKE BAY FERRY SYSTEM FUND

BONDED DEBT—STATE ROADS COMMISSION OF MARYLAND CHESAPEAKE BAY FERRY REVENUE BONDS OF 1941, MAY 31, 1948 AND 1947

MATURITY DATE	INTEREST RATE	PAR VALUE OF OUTSTANDING BONDS MAY 31,	
		1948	1947
June 1, 1948.....	1½%		\$ 83,000.00
June 1, 1949.....	1½%	\$ 84,000.00	84,000.00
June 1, 1950.....	1½%	86,000.00	86,000.00
June 1, 1951.....	1½%	88,000.00	88,000.00
June 1, 1952.....	1½%	90,000.00	90,000.00
June 1, 1953.....	1½%	92,000.00	92,000.00
June 1, 1954.....	1½%		94,000.00
June 1, 1955.....	1½%		95,000.00
June 1, 1956.....	1½%		97,000.00
TOTAL		\$440,000.00	\$809,000.00

CHESAPEAKE BAY FERRY SYSTEM FUND

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS, BY FUNDS, FOR THE FISCAL YEAR ENDED MAY 31, 1948

	TOTAL	ELIMINATIONS	FERRY REVENUE FUND	REPAIRS FUND	DEBT SERVICE FUND		PROPERTY REPLACEMENT INSURANCE FUND
					FROM ½¢ GASOLINE TAX	FROM FERRY REVENUE	
BALANCE, JUNE 1, 1947.....	\$ 948,364.88		\$ 724,003.28	\$ 99,986.32	\$93,875.00	\$ 7,350.00	\$23,150.28
RECEIPTS:							
Tolls, including tickets sold for future use.....	\$1,233,133.81		\$1,233,133.81				
Concessions and rents.....	57,740.90		57,740.90				
Federal tax of 3% on cost of personal property transportation.....	25,920.20		25,920.20				
Discount earned.....	144.21		144.21				
Advertising display aboard vessels.....	80.00		80.00				
Miscellaneous.....	896.78		896.78				
Transfers from Ferry Revenue Fund.....		\$430,795.29		\$ 50,390.29		\$380,405.00	
Total receipts	\$1,317,915.90	\$430,795.29	\$1,317,915.90	\$ 50,390.29		\$380,405.00	
Total funds available	\$2,266,280.78	\$430,795.29	\$2,041,919.18	\$150,376.61	\$93,875.00	\$387,755.00	\$23,150.28
DISBURSEMENTS:							
Operating expenses.....	\$ 643,327.42		\$ 643,327.42				
Maintenance expenses.....	139,833.06		139,833.06				
General expenses.....	138,603.21		138,603.21				
Capital properties acquired.....	24,388.20		24,388.20				
Payments of 3% on cost of personal property transportation to United States Government.....	25,920.20		25,920.20				
Equalization contribution to Employees' Retirement System of the State of Maryland.....	11,926.37		11,926.37				
Improvements and betterments to ferry properties.....	23,958.03			\$ 23,958.03			
Rebates, adjustments, and abatements of tolls.....	3,233.46		3,233.46				
Debt service:							
Redemption of bonds due June 1, 1948.....	83,000.00					\$ 83,000.00	
Redemption of bonds due in the years 1954, 1955, and 1956.....	286,000.00					286,000.00	
Premium on bonds redeemed.....	5,720.00					5,720.00	
Interest on bonds.....	12,135.00					12,135.00	
Miscellaneous.....	97.75		94.75				\$ 3.00
Transfers:							
To Repairs Fund.....		\$ 50,390.29	50,390.29				
To Debt Service Fund from Revenue.....		380,405.00	380,405.00				
Total disbursements	\$1,398,142.70	\$430,795.29	\$1,418,121.96	\$ 23,958.03		\$386,855.00	\$ 3.00
BALANCE, MAY 31, 1948.....	\$ 868,138.08		\$ 623,797.22	\$126,418.58	\$93,875.00	\$ 900.00	\$23,147.28

CHESAPEAKE BAY FERRY SYSTEM FUND
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS, BY FUNDS, FOR THE FISCAL
YEAR ENDED MAY 31, 1947

	TOTAL	ELIMINA- TIONS	FERRY REVENUE FUND	REPAIRS FUND	DEBT SERVICE FUND		PROPERTY REPLACE- MENT INSURANCE FUND
					FROM 1¢ GASOLINE TAX	FROM FERRY REVENUE	
BALANCE, JUNE 1, 1946.....	\$ 665,528.20		\$ 370,703.68	\$112,599.52	\$93,875.00	\$ 88,350.00	
RECEIPTS:							
Tolls, including tickets sold for future use..	\$1,044,545.79		\$1,044,545.79				
Concessions and rents.....	30,502.21		30,502.21				
Federal tax of 3% on cost of personal prop- erty transportation.....	21,641.78		21,641.78				
Discount earned.....	119.58		119.58				
Fire loss recovery.....	30,044.51		30,044.51				
Collison insurance recovery.....	15,000.00		15,000.00				
Miscellaneous.....	1,560.12		1,560.12				
Transfers from Ferry Revenue Fund.....		\$93,394.51		\$ 50,000.00		\$ 13,350.00	\$30,044.51
Total receipts.....	\$1,143,413.99	\$93,394.51	\$1,143,413.99	\$ 50,000.00		\$ 13,350.00	\$30,044.51
Total funds available.....	\$1,808,942.19	\$93,394.51	\$1,514,117.67	\$162,599.52	\$93,875.00	\$101,700.00	\$30,044.51
DISBURSEMENTS:							
Operating expenses.....	\$ 467,656.18		\$ 467,656.18				
Maintenance expenses.....	75,599.07		12,985.87	\$ 62,613.20			
General expenses.....	119,948.49		119,948.49				
Capital properties acquired.....	66,183.73		66,183.73				
Payments of 3% on cost of personal prop- erty transportation to United States Government.....	21,641.78		21,641.78				
Equalization contribution to Employees' Retirement System of the State of Maryland.....	8,050.66		8,050.66				
Portion of fire loss recovery paid to the State Roads Commission of Maryland and certain of its employees.....	6,894.23						\$ 6,894.23
Rebates, adjustments, and abatements of tolls.....	253.17		253.17				
Debt service:							
Redemption of bonds due June 1, 1947.....	81,000.00					\$ 81,000.00	
Interest on bonds.....	13,350.00					13,350.00	
Transfers:							
To Repairs Fund.....		\$50,000.00	50,000.00				
To Debt Service Fund from Revenue.....		13,350.00	13,350.00				
To Property Replacement Insurance Fund.....		30,044.51	30,044.51				
Total disbursements.....	\$ 860,577.31	\$93,394.51	\$ 790,114.39	\$ 62,613.20		\$ 94,350.00	\$ 6,894.23
BALANCE, MAY 31, 1947.....	\$ 948,364.88		\$ 724,003.28	\$ 99,986.32	\$93,875.00	\$ 7,350.00	\$23,150.28

Date Due

DO NOT CIRCULATE



DO NOT CIRCULATE







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